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A Method of Straining Honey

By D. H. Morris,
Ohio.

SINCE straining honey is one of the major problems of beekeeping, I have been trying various ways for years with more or less of success. I never could get good, clear, clean honey by the settling system, and I have seen tons of honey put out by commercial producers who did not have any more success than I. Straining by ordinary methods is too much bother and requires too much time.

I thought up a method which I used last year that gave good results. It is several ideas in one. My honey is heated from 90 to 110 degrees in the extractor. To do it, I turned the extractor bottom up and soldered cleats or small pipe straps over about 30 inches of $\frac{3}{8}$ inch copper tubing like that used for oil lines on trucks.

Then I filled the V shape on the bottom full of Mineral Wool, or a good heat insulator. I soldered 4 stove bolts on the bottom so that $\frac{1}{2}$ inch extended beyond the level of the bottom of the extractor.

Then I cut a piece of insulating board (celloflex) and bolted it to the bottom to hold the mineral wool in place when the extractor was turned back to its original position. There is an outlet for the copper coil.

If you want to heat the honey hotter or extract faster, make more coils. I do my own uncapping and extracting. With two men, it would take a larger coil. I turn on enough steam so that water and a small amount of steam comes from the exhaust side of the coil.

To strain the honey, I have two tanks. A.—20 inches in diameter by 41 inches high. B.—32 inches in diameter by 36 inches high. C.—is an expanded metal tube 10 inches in diameter by 48 inches high. Inside of this is a cloth strainer, of the finest mesh strainer cloth obtainable.

There is a light bar across the bottom of C, and the strainer is tied to

that. Otherwise, it would float. D is a tube that goes to within an inch of the bottom of A and then fastens in to a tee at the top of D. The tube is fastened to it by a taper fit at E. F is a trough that lets the honey flow out of E and go down an incline to the tank B.

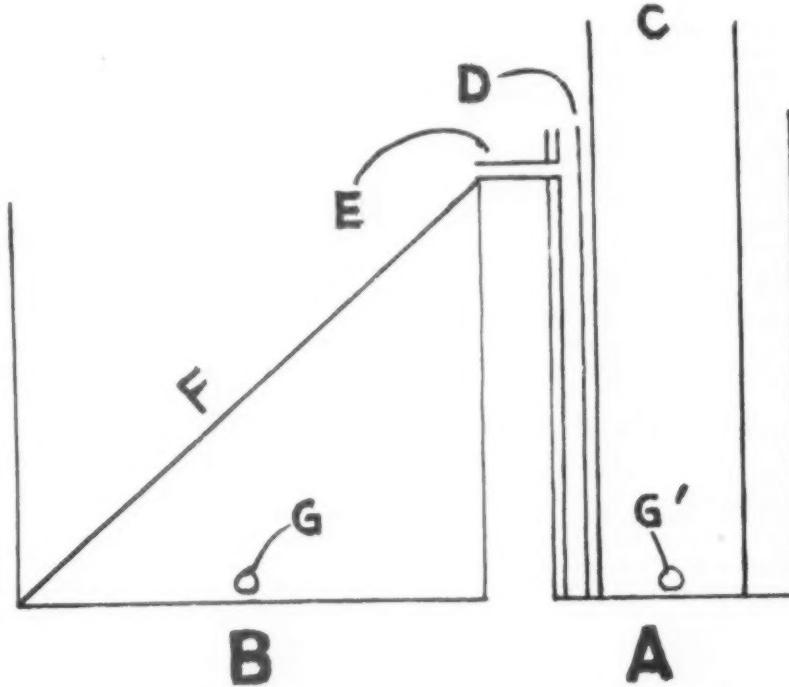
Regardless of the height of honey in B, the honey from E does not go over $\frac{1}{2}$ inch below the surface. G and G-1 are faucets. G-1 is used in changing strainers or when you are through.

In starting, I let my extractor fill up to the point where the reel won't swim, then I drain off just enough honey to let the reel move freely. Since the honey is heated in the bot-

tom of the extractor, all cappings come to the surface much quicker than with cold honey. The honey, therefore, that is drawn out of the extractor in small quantities to start with, is practically free of cappings. Thus the strainer is prevented from clogging.

This is continued until tank A is full or nearly full. After that, you can pour the honey in tank A as fast as you wish.

When honey is poured in the strainer, that honey does not go down in the honey that is in the tank over 10 or 12 inches, so all the cappings and foreign matter are at the top. The honey that does go to the bot-



Tanks A and B as described by Mr. Morris. F is trough incline; E, taper fit on tube D; C extended metal tube for cloth strainer; G and G' faucets for emptying.

tom of the strainer is free of foreign matter.

Many have trouble with foam in honey. If you will notice, the tube D goes within one inch of the bottom of tank A, and all the honey that passes over into tank B comes from the bottom of tank A, so it is practically free of foam.

Last year I let two tanks full stand a day or two in B before I drew them off, and I could have put the foam from both tanks into a pint jar. The space between the strainer and the tank wall in tank A catches a large percent of the foam, which may go through the strainer.

Of course, there is quite a bit of foam that stays in the strainer and goes to the top.

To make one of these outfits for a big commercial producer, the strainer tank should be higher. To eliminate the small amount of foam that passes over into tank B, tank A should be made larger in diameter.

I have used a great many straining systems, but this fills the bill better than any I have ever tried. Last year I strained 6,500 pounds with one strainer cloth without washing, and it was still going good when I finished. Last year was the poorest crop I have had since I have been here, and this was the total crop. This year I am going to strain out a better record.

It is very important to have the strainer holder or expanded metal tube higher than the tank, so when the honey begins to clog the strainer you have the pressure of the honey from the top of the last of the honey in tank A to the top of the strainer applied on the honey below. It has to go through.

Tube D could be soldered directly into the crossover tube E, but it would be very inconvenient when it comes to washing up.

This outfit described here has a storage capacity of about 1,800 pounds and does not take much space. If one is in a hurry, the honey could be canned from B as fast as extracted, and the amount of foam in 60-pound cans would not be much. It would be free of wax.

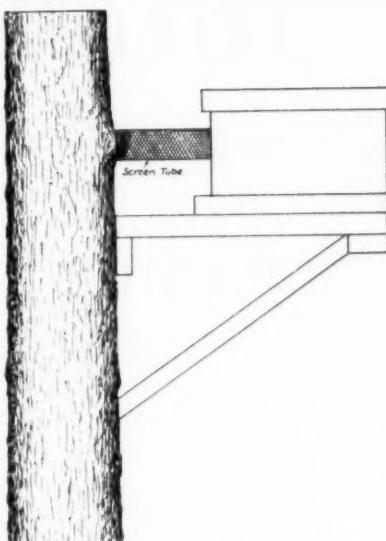
ABJ

Combat Robber Bees

To combat robber bees, sprinkle carbolic acid on a hive where bees are robbing and a quick retreat is certain. Another simple and sure method is to place a cloth dampened with carbolic acid over the top of the cover on a hive and let it extend almost to the entrance where the bees are robbing. I have found this method most successful and quick.

W. E. Stepp,
Kansas.

To Trap Bees Out of a Tree



Build a scaffold against the tree to hold a hive in such a manner that the hole cut in the hive will be slightly higher than the opening in the tree.

Take a piece of common screen wire. Roll it into a tube two or three inches in diameter and long enough to reach from the opening in the tree to a hole cut in the hive to receive the tube. Close all other openings to make it impossible for the bees to leave the tree without going through the beehive. Chas. H. Barnard,

Michigan.

ABJ

Ten Years After a Florida Hurricane

In March, 1935, I again visited the site of the Key Biscayne apiaries of which I was manager up until the hurricane of September, 1926. At that time, we had started to extract and had six hundred 60-lb. cans, two 200-gal. tanks and two steel drums of 55-gal. each of honey. I found the drums still standing. On opening and tasting the honey, I found that it was very dark, but otherwise all right. I expect to have some of it filtered.

There were 800 colonies with an average of five supers each in six yards; one yard of 150 colonies was well protected by a hammock, although five feet of water went over it. The hives themselves could not be washed away.

On looking this yard through, I salvaged 52 hive bodies, 40 bottom boards and 125 metal covers. Cypress is the wood for exposure. Much of it was buried in trash and muck, but all serviceable. The inner covers and bodies of pine could not stand it.

George Gordon,
Florida.

Chaff Tray Against Summer Heat

For several years I have used chaff trays of standard super depth for winter insulation, but this summer I have kept them on the hive right through the unusual heat as an insulation against the temperature.

For the last few days of high temperatures when the sun generated so much heat on both metal and wooden covers that wax melted on the top bars of the exposed hives without chaff trays under inner covers, we find that chaff trays keep the hives cool enough to allow the bees to stay in the supers about their business without other ventilation than the standard entrance without staggering of supers.

In a neighbor beekeeper's yard, three colonies melted down last week under excelsior covers, and in one of our yards where we had no chaff trays on, some colonies deserted the supers in the heat of the day. Under chaff trays, however, the activity was normal.

Russell H. Kelty,
Michigan.

ABJ

Certainly, Ten Dollars, Mr. Selfe!

We made an error last month that puts the Fireland's Association of Ohio in a bad light on the Honor Roll of American Honey Institute. They are credited in the July issue with a contribution under Ohio of one dollar. **It should have been ten dollars.**

Miss Cranston of the Institute says please tell the world we make mistakes, so here 'tis. Sorry, Secretary Selfe. Hope the readers all see this acknowledgment.

ABJ

Bees As Executioners

Purchas relates an incident which apparently involves the tendency of bees to sting after they have cleaned up honey which has been exposed. He says: "Cozenours and cheaters were thus anciently punished, they divested the guilty person of his cloaths, and then anointed him with honey all over his body, and set him in the sun with his hands and feet bound, that by many reiterated stings and the sun's heat they might receive a death worthy of their life." It seems likely that this punishment would not have been effective during a good honeyflow, which might have been taken as a sign of the man's innocence. Or perhaps they left him there until there was a break in the honeyflow and the bees could give him their full attention.

W. H. Hull,
Virginia.

GUEST EDITORIAL

In the Interest of . . .
American Honey Institute

From Small Beginnings Come Great Things

By George H. Rea,
Cornell University,
New York.

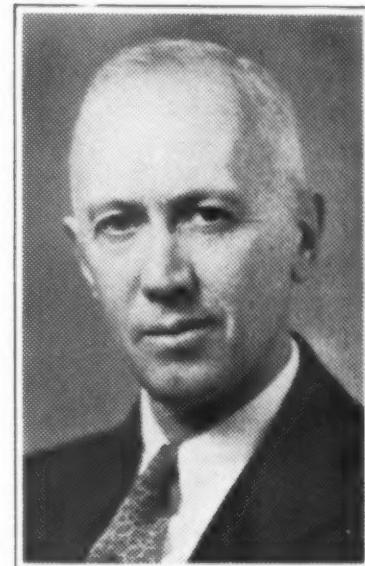
FOR nearly two thousand years the parable of the grain of mustard seed has held our interest as illustrating the values in small beginnings and at the same time evaluating human faith and the results obtained by sticking tenaciously to an objective. The American Honey Institute began exceedingly small and in fact it is yet only a tender sprout which we sometimes feel is fighting its way upward through dry ground. The ultimate results must depend upon the faith, the enthusiasm and the support of the beekeepers of America. We are happy to say that we hear many expressions of faith, see show of enthusiasm in some quarters, whole hearted support on the part of some beekeepers and apparently a gradual awakening of beekeepers all over the land to the possibilities of the work of the Institute.

The beekeepers of New York State represented by the Empire State Honey Producers' Association made a decidedly important step forward in 1935 by taking the initiative in the support of the Institute. Previously to that time the association and a number of individuals had supported the Institute but there was a feeling of discouragement because the beekeepers in general showed no special interest.

On December 12, 1935, an important change occurred. The annual meeting of the Empire State Honey Producers' Association in Syracuse featured Mrs. Malitta F. Jensen with her pleasing personality and splendid ability to present the work of the American Honey Institute and to demonstrate the uses of honey. She was ably assisted by Mrs. Winifred Loggans and several of the local beekeepers. **Honey Way luncheons and a Honey Way banquet with the demonstrations turned the trick.** New interest and enthusiasm resulted in increased contributions to the support of the Institute and a request that Mrs. Jensen return for a series of demonstrations in several of the leading cities.

The most important occurrence was the decision to organize a Women's Auxiliary for New York State. Mrs. Harold A. Merrell, Sunny Slope Farm, Wolcott, New York, was made the head of the auxiliary with power to select local leaders and organize the work. Mrs. Merrell is a graduate of the College of Home Economics at Cornell University and is well fitted both in ability and training to accomplish a good piece of work. Her husband, Mr. Harold Merrell, is an extensive commercial honey producer and by right of this business Mrs. Merrell is especially interested in the promotion of honey and has the best interests of the honey producers at heart. What she most needs is the wholehearted support of the women especially, and of all beekeepers in general. The auxiliary has possibilities for honey promotion which are young in development but mighty when given the proper opportunity.

Mrs. Merrell has been fairly successful in securing the cooperation of some of the women to act as local chairmen, but others are needed, and I add my plea to hers that the beekeeping women of New York State come to the rescue of the honey markets by using their ability to teach the public how to use honey. The interests of the public in the uses of honey can best be promoted by local effort and if sufficient local interest is created in enough localities, it is not hard to imagine the results in a national way. It is impossible for Mrs. Jensen and Mrs. Merrell and other national and state leaders to do this work. It can be done only by the hearty cooperation of



all of the beekeepers, while the women through the Women's Auxiliary have an especially big part to play in the program.

Mrs. Merrell has sent out a letter calling for a meeting of all women interested in the auxiliary in connection with the annual field day and picnic of the Empire State Honey Producers' Association to be held at Long Point on Chaumont Bay, near the village of Chaumont in Jefferson County on Saturday, August 15. Since the St. Lawrence River Valley is one of the best clover honey regions in the East and the Thousand Islands and other scenic features of the famous valley afford an unusual opportunity to spend a week-end vacation, a large gathering is expected at the field meeting. The beekeeping women are especially urged to attend the meeting of the Auxiliary.

I can do no better in closing than to quote certain statements from a letter which Mrs. Merrell recently mailed to some of the beekeepers' wives in this State:

"I have obtained the names of several women who I hope will be interested in starting **this piece of honey publicity work**. I am asking these women to serve as local chairmen or leaders. Each may have as many helpers as she can find in her locality—the more the better. She will communicate with these women (meetings are more satisfactory than letters where practicable) and plan some honey publicity. Mrs. Jensen gives these suggestions:

"One leader may have special standing with the schools and therefore will prefer to develop her honey educational work through the schools. Another leader may find it better to start her program with local newspapers. Another may prefer to start with the radio stations. Another may prefer to work with stores, bakers, and retail shops of one type or another. The **concentrated** effort should always come during the Honey Harvest Festival and National Honey Week."

"Will you serve as a local leader and try to accomplish some piece of work, however small, before the summer picnic of the Empire State Honey Producers' Association? At that time, we plan to have a meeting of the women with reports on what has been accomplished and more definite plans for the work for fall and winter. If there is no one in your group who feels she can work through the schools, newspapers or radio, surely each of you can introduce honey to those not now using it by **serving** some food prepared with honey at your next bridge party, or covered-dish supper. Another simple way of increasing the use of honey is to **supply to your retail customers some honey recipes, either from the American Honey Institute** or a few from your own files—neatly typed. No doubt, you can plan other simple publicity for honey."



Thomas C. Burleson whose house is here described.

A Honeyhouse Built for Service

A description of the new honeyhouse built for Thomas C. Burleson, Colusa, California. Details supplied by contractor and by correspondence.

THE realization of a beekeeper's dream of 15 years, lies on one of

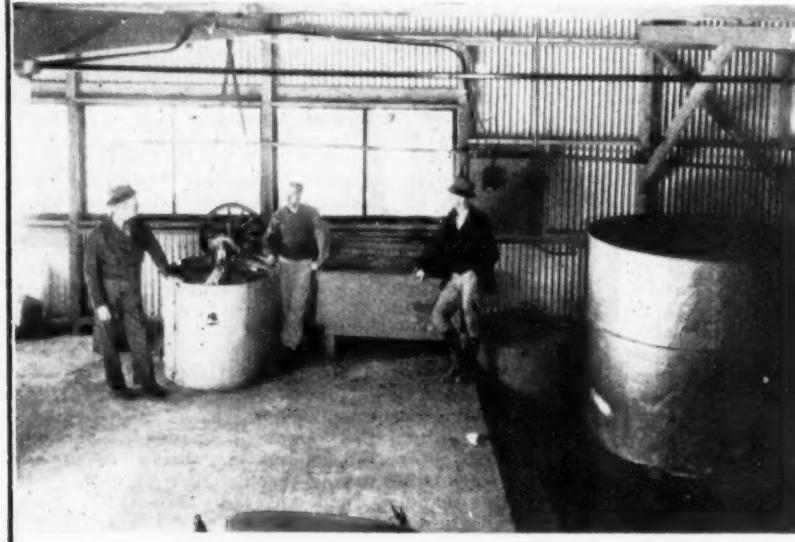
the main streets, near the business section of Colusa, California, a small

town of 2100, located about 40 miles north of Sacramento, the state's capital, "as the crow flies."

The dream is an original, efficient honeyhouse, arranged to meet every need. The beekeeper is Thomas C. Burleson, known throughout the United States and Canada as the producer of "Blue Ribbon Bees."

Burleson operates more than 2300 colonies, located in 24 apiaries in a radius of 50 miles from the new building. All honey is conveyed to the central plant for extraction. "With so many bees it requires a modern plant to take care of our honey crops," Burleson writes. "The shipping of a large volume of package bees and queens in the spring months, also makes it necessary for a large, centrally located plant."

His reason for building in town was so that if in the future, bee pastures should have to be changed and new fields sought, the expensive building would not be a total loss.



Extracting equipment, Burleson in center.



Front view of the house.

It is arranged and constructed so that it can be quickly converted into a store or garage.

A common fault in many central plants is that the ceilings are too low and there is inadequate ventilation so the temperature on hot summer days becomes unbearable. A high ceiling adds but little to the cost and at the same time permits more efficiency during the summer months. It also provides considerable additional space for storage of supplies.

The building, 40 feet by 72 feet in size, is constructed of corrugated galvanized iron with a concrete foundation and floor. It is positively bee tight.

"We have found that the larger the building, the less bee robbing we have," Burleson says. "What few bees come in with the truck from outapiaries, collect on window screens near the extracting platform, during the day. After our day's work is done the screens are removed and the bees escape at once. Not having a home to which to go, the "lost" bees fly around for some time seeking their location. Finally they "give up" and enter a hive of bees located in a corner by the warehouse especially for the accommodation of uninvited guests."

Burleson's office is located in a front corner near the street. The room is 12 feet square and provides



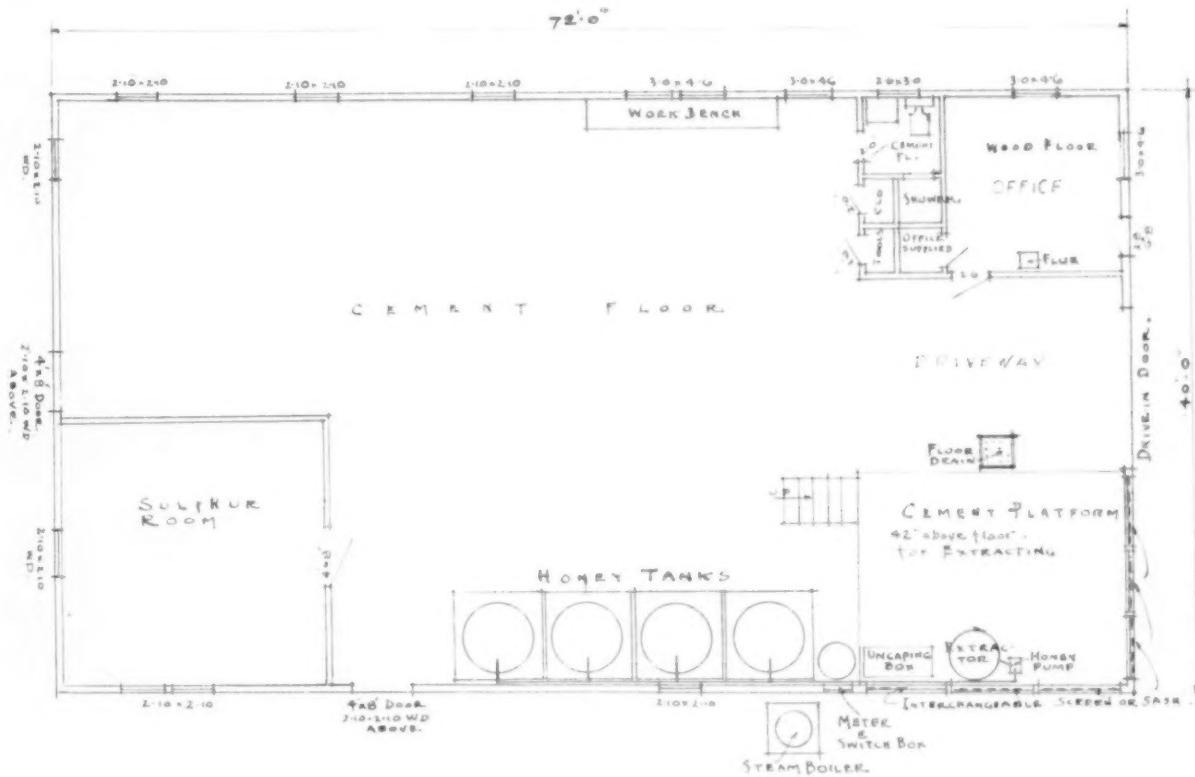
Storage tanks in line with extracting platform.

ample space for all office fixtures. It is lined with Celotex, making it cooler during hot months and warmer when cold weather predominates. The office is well lighted by two large windows and a French type outside door.

One of the features of the plant is the sulphur room, located in the rear. It is 14 feet wide and 18 feet long and is used for the storage of drawn combs, and also for the storage of full combs of honey for feeding.

Its capacity is 2000 ten-frame supers of comb, stacked so that all will have the circulation of sulphur fumes. It is bee-tight and virtually air-tight. "We burn the sulphur every ten days in summer and fall," Burleson explains. "In this climate drawn combs that have been sulphured will not be attacked by the moth larvae after November 1. They will remain in good condition until late spring, when, if they are not placed on colonies of bees, they may be destroyed by moth."

(Please turn to page 390)



Drawing of the complete house, furnished by Albert Klar, contractor.

EDITORIAL



International Horticultural Exposition

Chicago has long been the center of interest of the live stock industry because of the International Livestock Exposition held there every winter. To win at the International has been the ambition of every progressive livestock breeder.

Now a similar show is to be staged for horticulture in the new International amphitheatre at the Chicago stock yards. The first show is to be held September 12 to 20. Beekeepers should be awake to the importance of this event and take steps to see that apiary products are included as they have been at the Mid-West Horticultural Exposition.

Because of the part which the honeybee plays in the pollination of flowers, beekeeping seems to fit very naturally into the setup of a horticultural enterprise. No time is to be lost if apiary products are to have a place in this year's show. Interested persons should write at once to Dr. J. C. Blair, University of Illinois, Urbana, who is chairman of the advisory committee.

ABJ

Guest Editorials

Continuing the guest editorials for American Honey Institute begun last month, Prof. George Rea of Cornell University is this time guest editor. Due to his constant traveling, Prof. Rea has a chance to meet and talk with many beekeepers not only in New York, but in other states.

ABJ

Bee Disease in the News

Wide publicity has been given to the cooperative experiment in disease control through the recent Iowa meeting at Atlantic. Some of the reports are fairly accurate while others give the impression that the experiment has advanced much farther than it has.

It is very difficult to avoid misimpressions in any newspaper reference to anything of this kind. Even though a story be accurate when written, the changes necessary to fit available space in the different newspaper offices are sure to result in some confusion.

Let us repeat here what has been said in previous issues of the Journal that the experiment is still in its initial stages. A number of colonies have been found which show definite resistance to disease and which are still clean after receiving the same treatment which resulted in the death of check colonies.

It still remains to be determined to what extent the character is inherited and it is probable that some time will elapse before it will be safe to offer any claim as to the final results. Naturally those engaged with this problem are very much encouraged by results thus far secured and, at times, their enthusiasm runs high.

Doctor Park is a very careful and painstaking worker and he and his associates will use due care to avoid mistakes. Doctor Park has charge of the technical work, Professor Paddock is scouting for resistant stock and Frank Pellett looks after the apiary which is located at his farm near Atlantic, Iowa. We expect to keep our readers fully informed as to the progress of the experiment.

ABJ

The Place of Bees in Agriculture

One result of the depression has been to place much greater emphasis on research in an effort to find new uses for agricultural products and to find distribution in new channels. More than one hundred research projects

relating to flowers have been reported in a period of twelve months. Beekeeping, regarded by the public as of minor importance, has not received attention on the scale of subjects of more general interest, but it is being studied as never before in its relation to other things.

Since bees have become recognized as essential to the pollination of the flowers of so many plants, much study has been given to the place which bees occupy in agriculture. F. B. Paddock, State Apriarist of Iowa, has done some effective work in calling attention to the fact that decline in some crops in parts of Iowa may well be charged to the disappearance of apiaries from those communities. Through the Extension Service of Iowa State College he is calling attention to the importance of bees in any well balanced agriculture.

America is still a new country, yet our soil in many neighborhoods has been seriously depleted. Careless cultivation has resulted in the removal of the best of the topsoil by erosion, and poor management has resulted in the decline of fertility. Slowly a system of crop rotation is coming into use with legumes having an important part. Since it often happens that there is difficulty in establishing the legume in its proper place, attention has turned to the honeybee as a pollinator of some field crops as well as fruits.

It seems probable that, as a result, beekeeping may become more stable in the future. The present tendency is to use more legumes in the farm rotation, thus insuring better bee pasture. Since farmers are coming to offer inducements for bees rather than discouraging them, things are easier for the beeman.

ABJ

Drought

The widespread drought offers a serious challenge to American agriculture. This has been the seventh consecutive season of short crops because of dry weather in some localities. In many places the crops have been almost a total failure this season. Beekeeping is suffering along with other lines of food production, although the beekeeper has the advantage of ability to move his bees when conditions are unfavorable. The public is beginning to realize that it has been a mistake to destroy nature's reserve water supply. The drainage of marshes and straightening of small streams has intensified a painful situation.

ABJ

Cost of Disease

Brood diseases have levied a very heavy tax on the beekeeping industry in recent years. So heavy has this loss become that it has resulted in thousands of beekeepers' giving up the business of honey production entirely.

When we add to the loss of bees and destruction of equipment, the loss of crop which has also resulted, we see something of the staggering total which the industry suffers.

In view of the cost of disease to the industry it is a bit surprising that more attention has not been given to the search for a means of prevention. The old adage, "an ounce of prevention is worth a pound of cure" certainly applies here. Emphasis has been placed on the destruction or cure of disease rather than on means of preventing its spread.

There is much of encouragement to the beekeeper in the widespread interest now manifested in this problem. The experiment stations of several of the states, as well as the U. S. Department of Agriculture, are seeking a new and more efficient approach to the problem of preventing its spread.

disease control. With so many at work we may confidently look forward to the time when disease will no longer be a serious matter in the apiary.

ABJ

Erratic Honeyflows

There is always something of mystery in the behavior of plants in the secretion of nectar. It is probable that varying weather conditions from day to day may be largely responsible. In a season of extreme heat and drought such as we have had this summer such variations are especially noticeable.

During 1935, at the cooperative experimental apiary, there was but little nectar available until autumn and it was necessary to feed almost continually in order to get combs built and to encourage brood rearing. This season there has been a light flow almost continuously since dandelions began blooming in early spring.

Most of the nectar apparently came from dandelions and sweet clover. There was an abundant bloom of white Dutch clover and many people assumed that it was yielding honey. A careful examination, however, failed to disclose more than an occasional bee on white clover. Basswood bloomed unusually early and was likewise ignored by the bees.

There was a long and slow flow from sweet clover, especially from the yellow flowered variety. As a rule the hives on scales only showed a gain of from one to three pounds per day, but there was an occasional day when there would be a sudden jump to ten or twelve pounds. It was these heavy yielding days which were of special interest, but it was hard to decide what factors might be responsible for the larger harvest. A slight difference in temperature or wind direction was the only apparent change from the days showing little or no gain.

ABJ

Swarming

There is an old saying that "all signs fail in dry weather" and it seems also equally true that all our theories about swarming are useless in a swarming season. Volumes have been written about swarm control but the fact remains that we still know very little about it. Certain practices succeed with fair satisfaction under normal conditions which seem useless at other times.

It has been contended that the cause of swarming was a congested brood nest but the present season bees have insisted on swarming when the queen was removed to a nucleus with a single frame of brood. Colonies with young queens have built cells and swarmed almost as soon as the new queen was well established. One swarm succeeded another until the colony was weakened to a hopeless degree. With all queen-cells removed some bees have swarmed anyway leaving no means of replacement for those left in the parent hive.

Swarming appears to be something like the war spirit in the human race, without rule or reason. Occasionally there comes a time when everything else gives place to it and when nothing short of exhaustion will stop it. Fortunately, such extreme conditions do not occur very frequently.

We still have a lot to learn about bee behavior, especially about the cause and control of swarming in the unusual season when it appears to be the dominant object of the insects.

ABJ

Living at Home

Mahatma Gandhi, the Hindu leader, teaches a philosophy called "Swadeshi" which he defines as follows: "Swadeshi is that spirit within us which restricts us to the use and service of our immediate surroundings to the exclusion of the more remote."

In its practical application Gandhi encourages the people of India to spin their cloth at home on hand machines rather than to depend upon the cloth woven in England.

He teaches that a community can live for itself only when it produces everything for its own use within its own borders. He contends that it is unnecessary to be drawn into the mad and ruinous competition of the

present day which breeds jealousy, rivalry and other evils.

The high degree of specialization which this machine age is developing does enable us to produce more goods, but there is less security for the individual and our national position is far more precarious.

Less and less do we depend upon our neighbors for the things we need and more and more we depend upon the distant market for the products of our labor. It hardly seems necessary for the inhabitants of eastern small towns to depend upon California gardens for their vegetables when they could readily be raised at home. Yet we find some of the chain stores operating market gardens on a large scale for the production of vegetables to be sold a thousand miles or more from the point of production.

There may not be much that the individual can do about it, but he should do what he can to retain contact with his neighbors, buying from them and selling to them as far as conditions permit. The beekeeper who maintains a local market for his product, even to the point of exchanging honey for articles of need, is far safer than the one who depends entirely upon the distant packer for his outlet.

A partial return to the former ways of living at home might be greatly to our advantage.

ABJ

Market Prospects

The demand for honey seems to be influenced to a great extent by the amount of fruit in the market. In seasons when fruit is abundant and cheap the housewife is inclined to neglect honey. In seasons when fruit is scarce and high in price, honey is in better demand.

There is an unusually short fruit crop this year and if the usual condition prevails it may be expected that honey will be in good demand. New York reports less than half a crop of fruit for the state as a whole with some areas almost a complete failure.

The peach crop of the Southeast is spotted with many large areas having none to sell. The Ozark regions suffered from late spring frosts which left but little to mature.

Taking the United States as a whole the apple crop is reported to be the lowest since 1921. Unusually low winter temperatures followed by spring frosts took a heavy toll from the fruit men and this was followed by widespread drought in many states.

Well organized efforts by the American Honey Institute have brought honey to the attention of many new potential customers and a constant increase in new outlets has been the result. Just now everything seems to favor a good market for this year's crop.

ABJ

The Pure Food Law

No industry has benefited more from the pure food law than that of honey production. Prior to its enactment honey was one of the foods most commonly adulterated, now it rarely occurs. The housewife can buy honey anywhere with confidence and the prosperity of the beekeeper largely depends upon the protection which he receives from this legislation. No wonder he is suspicious of any attempt to weaken it or to make vital changes in its construction.

ABJ

New Plants

The search for new and worth-while plants to be found in distant places is under way more intensely than at any former time. So many of our desirable ornamentals, as well as useful food plants, have been brought from abroad that there is every reason to believe that many more of equal value will still be found. Beekeepers are especially interested in view of the fact that most of our market honey comes from such exotics. Alsike, white Dutch clover, sweet clover, alfalfa, and many others have come to us through the efforts of those who have sought the best from far places. There are still large areas where beekeeping is of little importance for lack of some major honey plant grown in large acreage. It is to be hoped that suitable plants will be found for such regions.

A Honeyhouse Built for Service

(Continued from page 387)

The sides of the building are punctuated by 22 windows, all located so a maximum of air circulation may be gained. All have galvanized wire cloth sash to keep out bees. Windows in the storage section have been placed near the top of the walls, so supers, hives, and honey cases, may be stacked along the walls and still leave space above for the entrance of light.

Trucks make their entrance through a large door, 12 feet high and 11 feet wide, in the front. A truck with a capacity load can easily enter.

In the building, just to the left of the door, is an extracting platform, 14 feet by 18 feet, and about 4 feet high. Ample space is provided for stacking many supers of honey. The platform is constructed so that all water falling upon it will drain to a sewage outlet in the center of the platform. The floor of the platform is of smooth concrete so honey and dirt, accumulating on the machinery and floor during the day, may easily be scrubbed loose and washed down the drain with running water.

An eight-frame extractor is located on the platform, together with a honey pump and uncapping box, all permanently installed. The late model pump, which carries honey to the storage tanks, is powered by a two-horse power motor, hung overhead for safety and convenience. An electric switch is located just to the right of the uncapping box.

Out of season the platform is used for making bee feed and placing it in feed cans for spring package bees.

Two sides of the platform are enclosed with interchangeable screens, 4 feet square. In summer regular galvanized wire cloth sash is used, and in winter the new Vim-Tite wire cloth, which is air tight, but allows the light to enter the building.

Climatic conditions in this area make heating honey for extraction unnecessary. The honey can stand throughout the night without becoming too cold for extraction the following day.

The storage tanks are located close to the platform. This enables the workers to determine the amount of honey in the tanks without leaving the extracting work. Four large tanks have been provided for clarifying the

honey and are placed on timbers high enough so the honey can be drained into five-gallon cans. The honey is allowed to settle in these tanks for six days before it is canned.

Along the south wall of the building, behind the shower room and business office, is a work bench, built of solid material and well lighted by large windows and electric lights. It is here that all frames, supers, and bee-shipping cages are nailed, and queen bee shipping cages are filled with candy.

A steam boiler is located on the north side of the building, outside the walls. Steam pipes enter the building to the left of the uncapping equipment. A pipe is also located beneath the extractor so, if weather necessitates, steam can be used to heat the honey. A pressure gauge is located in front of the uncapping box.

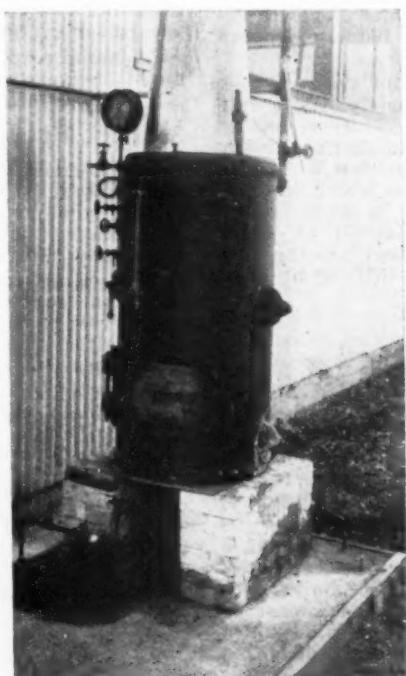
The whistle on the boiler has an historic background. It was salvaged from the wreck of the Sacramento River boat, Nellie, which went aground and was wrecked less than 100 feet from Burleson's warehouse. The whistle was presented to Burleson by C. H. Manville, the first bee inspector in Colusa County, who secured it from the wreckage when he was a boy.

Burleson has located his wax rendering room outside the main building, because of fire hazard. This, he said, reduces the cost of fire insurance, especially when carrying short term insurance on large honey crops.

"Although our building's first cost was great, it will last a lifetime and will pay for itself in increased efficiency and added output," Burleson writes. "Everything is maintained clean and neat and visitors leave with an impression that sanitation is our important attribute. Mr. N. E. Miller of Provo, Utah, world's largest honey producer, who visited our plant recently, said that to his knowledge it was one of the most convenient and well equipped of all he had seen."

Cost of Burleson's honey extracting and storage plant:

Labor	\$ 872.87
Sand	65.00
Rent of concrete mixer	35.00
Hdw., paint & elec. fix.	82.08
Plumbing & plumbing fix.	147.86
Corr. gal. steel	393.89
Cement	180.25
Lumber, sash, wind. screen	658.46
Total	\$2,435.41



Oil-burning steam boiler. The whistle is a relic of the good old days.



Loading Chevrolet truck directly from the extracting platform. Unloading is just as handy.

Mailing the Pail of Honey Directly to the Consumer

By Alfred H. Pering,
Florida.

ONE of the precautions necessary to be taken in preparing the five- or ten-pound friction top pail for shipment is to see to it that the lid of the pail does not allow any leakage while in transit.

Rough handling will frequently cause the friction top pail to leak just a little if something is not done to hold the lid tightly in place. This is accomplished in various ways. Some shippers solder the lids at three points to prevent loosening of the lids if they happen to be roughly handled while up-side-down. Honey that is packed while cool will sometimes expand enough to force the lid up causing a little honey to leak out if left long in the sunshine at transfer points.

Others when crating a number of pails will place a wood block between the lid and the strip of crating in such a way as to press constantly against the lid. This method is effective if the strip of crating is not too long and does not spring.

In filling orders for honey to be sent by parcel post mail, it adds to the weight of the package if it is crated. It also adds to the cost and there is time consumed in putting up the crate. Honey producers receive little enough for their product at present and where possible should avoid anything that adds to the cost of marketing.

I have found the regular cartons that are made of sufficiently strong corrugated strawboard, to be handy and for single shipment, are comparatively inexpensive; but even they will sometimes be so roughly handled as to cause leakage and dissatisfaction to both the shipper and the consumer. I have not had much trouble along that line, but enough to set my head to conjuring up something that would eliminate even these few instances of trouble and complaint.

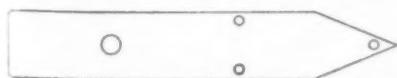
I can not claim that I have devised the best way to prepare the ordinary friction top pail for transportation

by parcel post, but the method I now use and have been using for some time has eliminated all complaint of leakage; at least if there is any complaint, the kicks have never been sent to me.

A description is submitted herewith together with drawings that are somewhat self explanatory. Cut a piece of cardboard the size to just fit inside the bucket-lid. On this cardboard place your name and return address and the purchaser's name and address, as shown in the pencil drawing. Separate these two addresses so the cardboard can be nailed to a strip of wood one inch wide and at least one-half inch thick. You may use thicker strips if you like. This strip is to reach across the top inside depression of the lid, and should fit across the center of the circle, snugly. Nail this strip on so as not to cover any part of the addresses. Use one nail at each end of the wood strip. This will prevent the cardboard from slipping or turning around and preventing the postal employees from reading the direction.

Now place this in position down inside the depression of the lid and to each end nail the two pieces of tin that are illustrated in the pencil drawing. These two pieces of tin should be about one-half inch wide or a little wider and about three and one-half inches long. Near one end, punch three small holes for nails as shown. In the other end, punch a hole large enough to allow the end of the bucket bail to pass through. The size and position of this hole can be found by trial and error, until you have found the proper place.

Now bend the end that is away from the nail-holes, upward and down upon itself just close enough to allow the looped end to have space enough left to slip under the ears of the pail. Now hook these pieces under the ears



Two tins, this shape; three holes for nails. Large holes for bails to pass through after nailing to wood block.

Bend this shape. Insert loop end under ear of pail far enough so bail will pass through the hole. Nail each tin piece then to the wooden strip.

of the pail and bend them over and nail them to the top side of the wood strip. See to it that the hole in the tin strips come neatly over the holes in the pail-ears. Now put the bail ends in place and your lid is securely fastened down and cannot rise sufficiently to cause a leak. Even if the bail is removed by accident or design, the lid can not be removed without removing the nails in the tin strips. The nails used in fastening these tin strips should not be of sufficient length to pass through the wood strip and puncture the lid.

On top of these tin strips and just the length and width of the wooden strip, should be nailed a strip of cardboard upon which should be printed or written, "Outside Parcel Post Mail." Also the word, "insured," if you wish the shipment insured. Your package is now ready for delivery to the Post Office or your Rural Letter Carrier as the case may be. Pails and buckets prepared in this manner are handled as "Outside Mail" or in other words are handled from hand to hand and are not placed in mail sacks to be thrown around or otherwise roughly handled, and in all my experience they have carried safely and never a kick from the receiver. Only the weight of the two pieces of cardboard and the two narrow pieces of tin, together with the wood strip and nails are added to the weight of the pail and does not add to the cost of transportation, or if any, the amount is very small.



Here it is, labeled and ready to go to Mrs. John Consumer, anywhere.

My description seems rather lengthy and one may get the impression that the job is a time con-

sumer and rather tedious, but if the thing is tried out a very few times, you will be surprised how quickly it can be done. One point is to get a

number of the parts ready and on hand beforehand and a little practice is conducive to speed and satisfaction.

ABJ

The Jobber's Job

By Walter H. Hull,
Virginia.

HERE in the East the retail price of honey has been around twenty-five cents a pound. As a concession to hard times let's call it twenty. Bees should average fifty pounds per colony—\$10. One hundred colonies, \$1,000. But a man should be able to care for five hundred colonies with only a little help. Five hundred colonies, \$5,000. Now we are getting somewhere. An income of \$5,000 a year! And time off in the winter! Whee-e-e-e!

Some beekeepers no doubt make \$5,000 a year; but no hardened business beekeeper would fall into the error of this line of reasoning. We wouldn't mention it at all but for the surprising number of people who are not hardened to the point where they can look the truth in the face calmly enough to enable them to recognize it when they meet it again.

Leaving out such little items as the first cost of your plant and the cost of operation and maintenance, the joker in this \$5,000 bonanza dream lies in the difference between the cost of honey on the hives and on the honey-eater's table. Just what this difference is in dollars I shall not attempt to say; we are more concerned here with the difference in sense. However, some idea of the dollar's phase of the subject may be had from the classified columns of this Journal under "Honey for Sale"; only, we should remember that the prices mentioned do not tell the whole story, since the advertisers are by that very act putting in time and money toward selling their crop, all of which must be deducted from the price received.

As a matter of fact, except when there is an abnormal demand such as might be caused by war or famine, it is always more of a problem to distribute your product than it is to produce it. Theoretically, distribution is the process of passing your product along to those who need and, presumably, want it, and for which they will pay you money. Actually the producer considers only the money part of this program. Serving the needs of his fellowmen (in this manner) has become emphatically none of his business. Harsh necessity has forced him into making the first and

more beautiful of the twin objects of distribution a mere by-product of the hard-bitten second. Perhaps that is as it should be; many of the beautiful things in life are by-products of things not so esthetically impeccable.

The very difficulties of distribution have provided a way out for the producer who does not wish to enter that seething field; they have brought into the field specialists in distribution who will buy your crop outright and assume all the cost of passing it on to a more or less hungry world.

In the honey trade these dealers may be divided roughly into two classes: those who buy to sell again in the original packages, and those who repack the product and sell to wholesalers in job lots for the retail trade. These fields overlap more or less, some of the first mentioned selling to the wholesale trade in original packages, and the packers often selling in original packages, after the manner of the "dealers." For our present purposes it will be accurate enough to list them all as jobbers.

The price this first buyer pays for your product is significant in that it represents the actual value of your product in the market, with no selling costs added. It is the price at which you might **buy** the same kind of honey you have **produced**; and it is probably the price at which you would have to buy if you expected to go into the business of selling honey—and stay in.

Since this buyer's job is first of all to buy honey, he will pay you just as much per pound, or perhaps a half cent more, if you have, say fifty thousand pounds as he will if you have only one thousand. For this reason the small producer generally finds it more profitable to assume part or all of the selling costs himself rather than turn the business over to the jobber. This difference in status is something that producers would do well to recognize, especially the little producer who is thinking of jumping into the big time class.

The dealer who buys your crop outright will not, of course, pay all the cost of delivering it to the consumer. He will pay part of it and pass the rest along to the wholesaler or

some other intermediary. The point to remember is that passing the product along in this manner is an actual service performed at real expense by whoever undertakes it. But the fact that the jobber undertakes it does not mean that the producer has no obligations in the matter.

In the Middle West it has been a common practice for wholesalers to buy honey in bulk direct from the dealer and bottle it themselves. For this work they use only a small liquefying tank, which is all that they feel justified in providing and all they need for honey that is properly put up. But it now appears that so much of the honey sold thus in original packages has proved either dirty or foamy, or both, that the wholesalers, having no settling tanks in which to clarify such honey, have had to stop buying it. What else could they do? There is no good reason why they should provide equipment for cleaning bits of wax and propolis and foam out of honey. That is the producer's job, and for the loss of this trade, which was one of the most important outlets for honey, the producer is directly responsible.

The indictment can be made even stronger. My investigations along this line showed that careless and improper grading, sometimes running close to plain dishonesty, was by far the most serious fault with producers, from the dealer's point of view. The buying is done by sample and, to quote one of the largest dealers in the West: "It is surprising how often a producer will tell you that a carload of honey will all be like a certain sample and we not only find several colors in the shipment but a difference in the flavor."

It appears, furthermore, that the general run of associations do not give much better satisfaction in regard to grading than the individual producer. I make that statement as a sort of confession in the interests of truth, for my theory was that associations should do much better. Their failure in this respect is explained, adequately I think, by the fact that they do not usually supervise the members' grading—at least, not very closely—and I admit that

under these circumstances little improvement could be expected.

But I can find equally little excuse for this bad grading. For the producer who does not want to enter the selling field I have plenty of sympathy. If he can afford it, and is so inclined, let him, I say, dump the whole tangled problem into the lap of the jobber, who will chortle with joy at the prospect of handling it, for that is his job. But to put out a clean, sound, properly graded product is the **producer's job**, and when he dumps that difficulty onto the jobber along with the selling problem he is in effect taking something that he has not paid for. He deserves no sympathy—and I might add, gets none, even when Miss Market walks away from him and sits down beside some corn sugar guy. The unfairness of it lies in the fact that honest, efficient producers and jobbers alike have to suffer with the man who, to put it plainly, is too yellow to stand the gaff of honesty and efficient performance, both of which call for at least the semblance of a backbone.

Naturally the jobber cannot do the impossible. For years the market for honey has been sluggish, with demand running behind supply. Lately foreign tariffs have cut off a good part of the export trade so that the business, doubling back on itself, is focused on a smaller territory with correspondingly fiercer competition in that territory. It simmers down to a question of price, the main problem being to make sales and at the same time maintain a price that will enable the business to live.

To the end that the business may thrive the jobber recommends more national advertising and better grading. The first of these is hard to achieve, though we will come to it in time; the second is directly within the producer's power at any time. It is the least that producers can do toward improving conditions, and without it any increased advertising would be of doubtful benefit, although of course if there was a more active consumer demand, such as might be fostered by more advertising, it would be taken care of somehow. Poor quality merely tends to neutralize the advertising.

Jobbers, like everyone else, are waiting for conditions to improve, but that does not mean they are waiting in idleness. In their ranks are to be found some of the most active boosters of honey that we have anywhere. Boosting honey is one job that jobbers and producers have in common and neither can afford to quit. But as a matter of fact, the real interests of jobbers and honey producers are so closely bound up together that they cannot be separated.

We have here an open door to the producer who is unable or uninclined to market his honey by a more direct

route. It is open particularly to the man who specializes in production, depending for his profits entirely on volume and efficiency in that field.

—ABJ—

Record of a Scale Hive in the Spring of 1935

By T. B. Stockwell,
California.

Location of bee farms in the center of orange groves 60 miles east of Los Angeles, California. All drawn combs used.

April 15	Orange trees just begin'g to bloom.
" 17	Gain 2 lbs.
" 18	" 4 "
" 19	" 4 1/2 "
" 20	" 6 "
" 21	" 5 1/2 "
" 22	" 4 1/2 "
" 23	" 7 1/2 "
" 24	" 3 1/2 ")
" 25	" 3 ")
" 26	" 3 ") Cold and rainy.
" 27	Loss 2 "
" 28	Gain 7 ")
" 29	" 8 ") Foggy until noon.
" 30	" 7 1/2 ")
May 1	10 1/2 " Fine day.
" 2	2 1/2 " Foggy all day.
" 3	" 6 " Foggy until noon.
" 4	" 7 1/2 " Good day.
" 5	" 5 " Foggy until noon.
" 6	" 6 " "
" 7	" 3 1/4 " "
" 8	" 5 " Strong wind all day.
" 9	" 4 1/2 "
" 10	12 1/2 " Fine day.
" 11	" 6 1/2 " Windy half day.
" 12	" 10 " Fine day.
" 13	" 8 "
" 14	" 3 3/4 " Cold. Or. blm. abt. over.
" 15	" 4 "
" 16	" 1 1/2 "
" 17	" 3 1/4 "
" 18	" 2 "
" 19	" 1 "
" 20	Loss 1/2 " Windy. Or. bloom over.
" 21	" 1 "
" 22	" 1 " Cold. "
" 23	" 1/2 "
" 24	" 1 "
" 25	Gain 1 "
" 26	" 1 1/2 "
" 27	" 1 "
" 28	Bees moved to sage. No record kept.

Loss 6 lbs. Working days 36. Average about 5 lbs. per day.

—ABJ—

All Queens from Choice Stock

By E. S. Miller,
Indiana.

Little improvement can be made in a strain of bees by hiving swarms. Neither can it be done by selecting queen cells from average or even better than average colonies. It is only by rearing **all** queens from choice selected stock that real progress may be made and this necessitates the use of the grafting method.

In starting, one should secure the best and purest stock possible. Then breed only from the outstanding colony or colonies of that strain, for it often happens that some one hive outdoes any of the others in the yard in production of honey while possessing the other desirable qualities such

as non-swarming, color, gentleness, tractability, etc.

Let us suppose that we have one such colony. Then suppose that we rear all of our queens from this one and requeen all other colonies in the yard. The workers resulting therefrom will be mixed but the drones reared from the daughters of this queen will be of the original stock. Then if the same method is used in the following year and thereafter, the workers also will be of the superior strain. By continuing this procedure, more progress can be made in three or four years in improving the quality of the stock than in fifty years of haphazard selection.

The crossing of two good strains of Italians may result in something better than either parent stock or in something not nearly so good. Bees of the first cross as, for example, between Italians and Caucasians or between Italians and blacks or dark hybrids often will outstrip all others in production. A second cross, however, usually results in mongrels that are of little value, so that it is inadvisable to use hybrids as breeders, no matter how good they may be as honey gatherers.

Rearing queens by grafting is not difficult after one learns the trick, and if interested in better bees rather than in more swarms, it will pay to learn.

—ABJ—

A Honey Week Bakery Exhibit

During National Honey Week I obtained the store window of "The Bee-Hive Bakery" on Main Street of our town. I borrowed an exhibition case and took out a comb of extracted honey and one of shallow super comb honey and with this material filled the window.

It was so popular that the proprietor asked to have it left longer. When I took it out he said he had sold so much honey he would have to carry it regularly which he had not done before.

Charles H. Davis,
Massachusetts.

—ABJ—

As in the Bee Journals

The prudent bees fly to and fro
And light on every flower;
But gather only what they know
Will amplify their dower.

So prudent men will often find
In the work of others,
Riches of another kind—
The common wealth of brothers.

—W. H. Hull,
Virginia.

Observations on Beekeeping in Florida

By Isaac S. Diller, M.D.,
Florida.

AROUND Miami, along the southern part of the east coast, the principal source of honey is the citrus bloom and the saw and cabbage palmettos. Grapefruit is grown commonly in large groves for commercial production and seems to do very well. The flowers are comparable with the orange, being larger and the bees are fond of them. Limes are grown commercially, and oranges and lemons to a less extent. The principal citrus fruit is the grapefruit. This produces a light colored honey over a long period in the spring, blooming from February until May.

Along both coasts, south of Palm Beach on the east coast, and south of Tampa and St. Petersburg on the west coast are numerous black mangrove trees. These trees were badly injured by the hurricane in 1926, but since have grown up. In the picture here, broken trees of mangrove are shown. Young ones have grown, however, and are making a bid for the light of the forest.

Some of the shrubby trees are of the red mangrove, which is of no use as bee pasture. The black mangrove has a small green flower quite unnoticeable. It blooms in the spring and gives a large amount of dark honey.

The trees are all along the sea coast where it has not been cleared for bathing beaches. They grew in salt water and swampy ground. Their roots or branches shoot down into the swamps to accumulate the driftwood and floating debris, preventing erosion. They have had a lot to do with reclaiming the sea coast of southern Florida.

A beekeeper with his apiary in three miles of the coast takes advantage of this productive source of nectar. The black mangrove also thrives on the landward side of the coral islands, thus building them up too. The coral islands are within two miles of the coast line. Miami is not far enough south to take advantage of the manchineel, which is said to be the most productive of coast nectar-bearing trees known.

In this region also, the palmettos thrive. The ground is made of coral rock and under it six or seven feet is the ground water which drains out from the interior. Anywhere in this part of the country, one can dig down to a depth of ten feet and strike water. The coral rock is porous and on the wild ground will develop saw palmetto which seeds itself in large numbers.

The palmettos are small stemless palm-like plants, which develop a large raceme of white flowers in May, dearly loved by the bees. Also, the cabbage palmetto is plentiful and is a palm-like plant differing from the saw palmetto in that it has a stem and does not bloom until August. It is, also, a good bee plant. There are

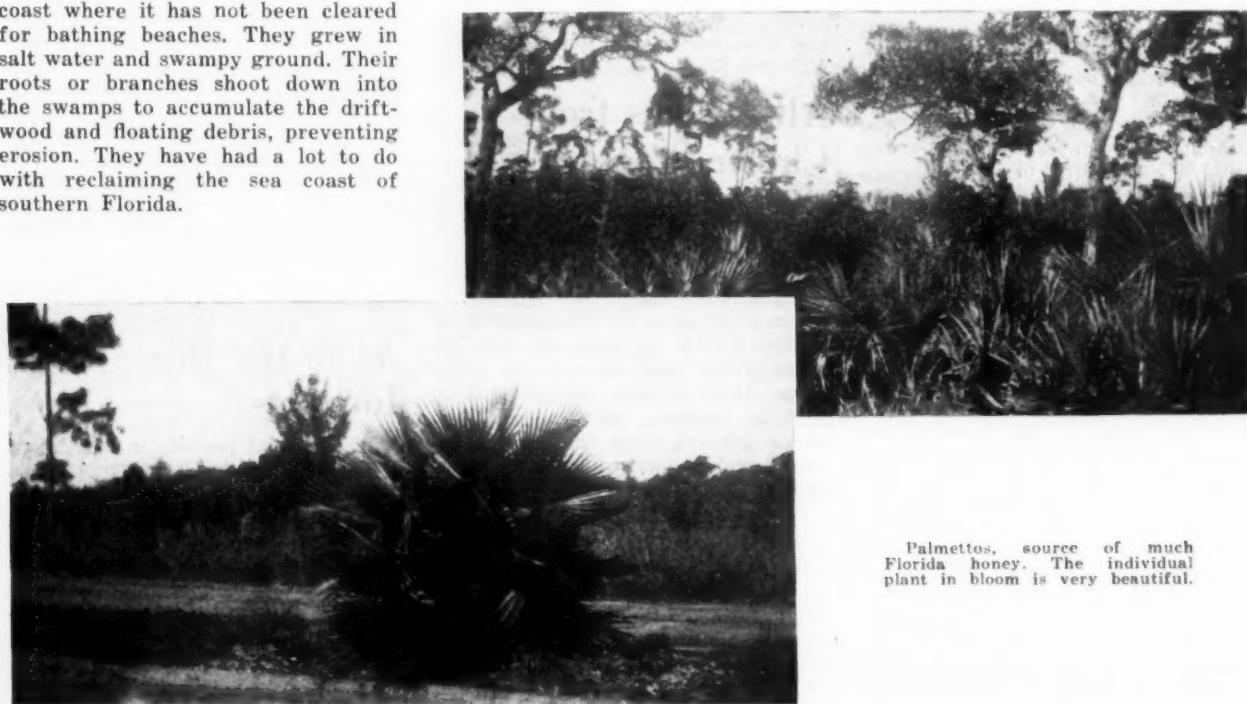
more flowers on the individual plant, but the plants, themselves, are not so numerous.

The Seminole Indians used to eat parts of both plants, pulling the young saw palmettos out by the root, getting as much as they could, to eat the tender shoots. The Indians also ate the berry-like fruit. The plants and fruit must be obtained at a certain stage of growth or they are inedible.

There are many other plants, furnishing bee pasture out of season. The most common are the beggar's ticks, such as we have in Pennsylvania, but in Florida they are larger and more abundant. They seem to bloom continuously.

Several of the members of the pea family are much loved by the bees, one especially with a large yellow flower; a sort of bean, producing a dark honey. The goldenrod and asters here are small plants and have leaves that are also small, showing every indication of having adapted themselves to a dry climate.

While the rainfall in Florida is a third heavier than in a state like Pennsylvania, still the coral rock is porous and sandy, and retains little



Palmettos, source of much Florida honey. The individual plant in bloom is very beautiful.

Mangroves, tangled and sturdy, help build up the coast line and often yield abundant honey for Florida beekeepers.



moisture, so it dries out quickly and these shallow rooted herbs cannot reach the ground water, so they suffer.

Most of these plants produce a dark honey, not so desirable as the light, and selling for about a third less. There are many ornamental exotics blooming in the winter which northern visitors have planted about their houses. Some of these are attractive to bees, and in the aggregate, these bee plants are numerous.

With this excellent pasturage, the honey production in the Miami district is comparatively large, even with the crude methods common among small beekeepers. From five hives, as an example, an inexperienced woman "robbed" 17 gallons of "strained" honey twice a year, averaging up about 100 lbs. a colony.

Comb honey in Florida is not easily produced because of the heat, and even in winter the sections leak badly. The citrus honey and the saw palmetto are the most desirable, and the lightest in color, and are preferably removed in early June. Darker honey is removed in December. Bees never go into winter quarters, but work continuously. They have rush seasons, but there is always pasturage of some sort. Their short rest period occurs in December, January and early February, but almost any day bees may be found busy on the beautiful exotics or on the wayside weeds.

Fruit growers are alive to the advantages of bees for pollinating, especially citrus fruit growers who

notice the greater bearing of their trees when bees are plentiful.

Dark comb honey wrapped in cellophane is often sold in the north. The comb honey produced can hardly be called first class. The sections are not well filled and some are not sealed at the edges, so that when put on sale they may come loose from the boxes.

When held up to the light, however, the orange honey is very beautiful, quite clear and of a golden color. It is often displayed in glass refrigerators which is not conducive to improving the quality.

Light extracted honey sells for more than the dark, although most who like the latter, claim it is richer and has a better taste. The citrus honey granulates more readily than the northern white clover. The tupelo honey from the Appalachicola district in the northwest of Florida granulates very slowly.

I have seen only the modern type of hive in Florida, but not all of them were standard. Swarming does not seem to be a problem. The bees I have experience with are the Italians, usually three-banded leather colored. I have not noticed many goldens.

I feel sure that *Apis dorsata* would thrive in Florida. It is the largest bee known, producing combs outside, without a hive. I would like to see an attempt made to introduce it here.

There are large red-headed ants very destructive to bees, and once they have attacked a colony, it is doomed. A number of ants may appear about a colony at night, and they

gradually increase until a procession of them is coming and going from the nest of the ants, which is usually in the ground in some decaying wood.

They work at night. If you can find the nest and destroy all with hot water, that is the end of them. Beekeepers put their hives on posts and protect the posts with cups of water to keep the ants down, but once they get a taste of honey and bees, they keep at the hive until it is in their possession.

In collecting orchids in the woods, I inadvertently collected a nest of these creatures. It was interesting to watch them at night come out to take the sugar I had put out for their delight. I thought they might inquire where the sugar came from so I added arsenic to it.

—ABJ—

A Good Smoker Fuel

By Frank Derrenbacker, Jr.,
Virginia.

If beekeepers who read this have had as much trouble in finding a good smoker fuel as I have I am sure they will appreciate my little suggestion. If you live where sumac grows, some time in the fall gather up a supply of the tops, the big red bobs, and put them away in a dry place for next season.

Of course, there are many things that can be used satisfactorily for smoker fuel but I like the sumac bobs. They make more smoke, last longer and never flame up and do not irritate the bees. Puff as hard as you wish and all you get is a cloud of white cool smoke less the disagreeable odor that you get with rags and many other things that the beekeeper uses.

Try it and you will be convinced. I use old rags soaked in saltpeter solution to start the smoker.

Adulteration of Honey Readily Detected by Present Highly Perfected Methods

By R. E. Lathrop,

Carbohydrate Research Division, Bureau of Chemistry and Soils,
U. S. Department of Agriculture.

A DULTERATION of honey is now a rare occurrence, due largely to development of highly perfected chemical methods of detecting the common adulterants used for this purpose. Before passage of the Federal food and drugs act in 1906, adulteration of extracted honey was quite common. Cane sugar syrup and glucose were then commonly used for this purpose. The addition of these substances to honey in any appreciable quantity is easily detected, so that it later became the practice to use invert sugar for adulterating honey. Commercial invert sugar syrup of approximately the same density as honey is very easily prepared from cane sugar by acid treatment and, since it is quite similar in composition to the sugar constituents of honey, its presence is more difficult to detect than is that of added glucose or cane sugar. Therefore, present methods of detecting adulteration of honey are devised primarily to ascertain the addition of commercial invert sugar.

The test most frequently used to detect commercial invert sugar in honey is the so-called resorcinol, or Fiehe, test. This test is based on the formation of a red color when an ether extract of the honey is treated with a solution of resorcinol in hydrochloric acid. Pure honey does not produce a red color when tested in this manner, whereas honey containing commercial invert sugar (prepared by treating a solution of cane sugar with an acid) produces an immediate red coloration.

A somewhat similar test (called the aniline test), in which aniline chloride or aniline acetate is used in place of resorcinol, is also commonly used to detect commercial invert sugar in honey. This test is somewhat simpler to perform and gives approximately the same results as the resorcinol test. In either test the formation of a red color indicates the presence of added commercial invert sugar.

Although, on the whole, these color tests are quite satisfactory, they are

nevertheless open to certain objections which tend to limit their value, especially in court cases. For example, when pure honey is heated strongly or stored for long periods of time, it may show a red coloration when subjected to either of the above tests. It is also possible to prepare commercial invert sugar (by treating a solution of cane sugar with the enzyme invertase instead of acid) that will not give a red color when subjected to the color tests. In either of these cases it would be necessary to resort to other means of detecting adulteration.

Although honey and commercial invert sugar show some similarity in composition, there are nevertheless certain very characteristic differences. These differences in composi-

tion, particularly with respect to certain non-sugar constituents, serve as a basis for additional methods of detecting adulteration.

It is a well established fact that honey almost invariably contains more levulose than dextrose. In his comprehensive investigation of the composition of American honeys, Browne found an average value of 40.5 per cent for levulose, and 34.5 per cent for dextrose. In case of commercial invert sugar, on the other hand, the proportion of dextrose slightly exceeds that of levulose.

It was suggested by the German chemists Auerbach and Bodlander that this difference in the composition of honey and commercial invert sugar be used as a means of detecting adulteration. Chemical analysis

TABLE I.—Relation of Color to the Nitrogen and Ash Contents of American Honeys.

Sample No.	Predominant Floral Type	U. S. Standard Color Grade (Pfund Scale)	Nitrogen Content		Ash Content
			Reading	Classification	
1251	Fireweed	0.0	W.	White	%
1229	Sweet Clover	0.2	"		0.05
1207	Orange	0.8	"		0.07
1285	Fireweed	1.0	Ex.	White	0.06
1234	White Sage	1.3	"		0.10
1201	Catsclaw	1.5	"		0.11
1203	Gallberry	1.5	"		0.15
1210	Manzanita	1.6	"		0.31
1252	Mesquite	1.6	"		0.11
1279	White Clover	1.7	White		0.10
1206	Catsclaw	1.9	"		0.114
1248	Sourwood	2.3	"		0.048
1244	Mangrove	2.4	"		0.036
1216	Tupelo	3.3	"		0.27
1377	Cotton	3.5	Ext.	Light Amber	0.19
1255	Wild Flowers	3.7	"		0.028
1189	Sumac	3.9	"		0.031
1195	Dandelion	4.4	"		0.43
1209	Holly	4.4	"		0.14
1213	Eucalyptus	4.5	"		0.33
1214	Fruit Bloom	4.7	"		0.39
1256	Horse Chestnut	5.1	Lt.	Amber	0.51
1208	Tarweed	5.6	"		0.26
1237	Rosinweed	5.8	"		0.60
1287	Bitterweed	5.8	"		0.07
1239	Alfalfa	6.0	"		0.37
1202	Chinquapin	6.8	"		0.16
1257	Wild Flowers	8.3	"		0.46
1337	Palmetto	8.3	"		0.39
1215	Unknown Source	11.5	Dark		0.23
1184	Buckwheat	12.9	"		0.51
			Average	0.048	0.325
					0.23

with respect to the proportions of dextrose and levulose obviously would be a means of distinguishing between the two products. While this test would be quite conclusive in case of very gross adulteration, it would not be so valuable for detecting moderate adulteration with commercial invert sugar, since in the latter case the proportions of dextrose and levulose in the honey might not be changed sufficiently to indicate adulteration. For example, tupelo honey, which usually contains almost twice as much levulose as dextrose, could be mixed with a considerable quantity of invert sugar without lowering the ratio of levulose to dextrose beyond that characteristic of ordinary genuine honey.

On the other hand, in case of certain floral types of honey such as alfalfa, in which the levulose content is usually only slightly in excess of that of dextrose, addition of appreciable quantities of commercial invert sugar would tend to reverse the ratio in which these two sugars normally occur in honey. The value of this test, except in cases of very gross adulteration, is obviously quite limited. It is sometimes useful as supporting evidence for other tests.

There are several minor constituents of honey, such as the mineral (ash) and nitrogen contents, that can be used for detecting added commercial invert sugar. American honeys contain on an average about 0.20 per cent ash, and about 0.05 per cent nitrogen. Although there is considerable variation in individual samples of honey with respect to the content of ash and nitrogen, nevertheless there is always present in honey a considerably greater quantity of these constituents than is found in commercial invert sugar. In addition, there appears to be an approximate relationship between the color of honey and its content of these two constituents, so that we know approximately the quantity of ash and nitrogen to expect in honey of a given color grade.

Table I shows the percentages of ash and nitrogen in a number of American honeys in comparison with color variations. It will be seen that, in a general way, both the ash and nitrogen contents tend to increase with increase in color of the honey. Since commercial invert sugar is usually made from highly purified cane sugar, it is virtually lacking in minerals (ash) and nitrogen. It is apparent then that the ash and nitrogen contents of honey will be lowered by adulteration with commercial invert sugar. On this basis the ash and nitrogen values become quite useful in examining honey for adulteration, especially in case of

gross adulteration with commercial invert sugar.

Another very effective method of detecting adulteration is by indentifying and isolating from the honey the acid used in preparation of the commercial invert sugar. Since, in practice, the most convenient method of preparing small batches of commercial invert sugar is by action of tartaric or citric acid on cane sugar, these acids, as well as hydrochloric and phosphoric acids (which are commonly used in commercial practice), should be looked for in honey suspected of being adulterated with invert sugar.

The writer recently testified as a witness for the Food and Drug Administration of the U. S. Department of Agriculture in a court case involving honey adulteration. By using a large number of different tests to prove adulteration, the Government was able to present a very effective case. The honey was found to contain a definite quantity of tartaric acid, which was isolated from the honey and identified. Since tartaric acid is not found in pure honey, its presence in this case could only be explained on the basis that it had been used in the manufacture of the adulterant, namely, commercial invert sugar.

In addition, the quantity of ash and nitrogen present in the honey, the proportions of dextrose and levulose, and the resorcinol and aniline color tests all indicated the presence of very considerable amounts of commercial invert sugar. The sample was also found to be lacking in certain plant pigments (coloring matter) that honey of its particular color (light) usually contains. This latter test may be of considerable value as a method of detecting adulteration.

A considerable proportion of the coloring matter of light-colored honeys consists of plant pigments, such as carotin, xanthophyll, and chlorophyll decomposition products, which impart to them their characteristic golden color. Sometimes, as in the case of tupelo honey, the shade of color may be distinctly green. The color of commercial invert sugar, on the other hand, is due to caramel. The two colors are quite different, which fact offers a means of detecting adulteration by use of color analyses.

In the above case the jury required only twelve minutes to bring a verdict favorable to the Government. This case is mentioned because it illustrates the advantage of using a number of different methods for detecting adulteration, rather than of relying on a single test. In order to be most conclusive, the various tests should be of such a nature that they are

entirely independent of each other. The application of these methods also illustrates the value and usefulness of a more exact knowledge of the quantity and nature of the components of honey that occur in relatively small amounts. By use of such criteria it is possible not only to detect the presence of an adulterant, but also to estimate approximately the amount present.

ABJ

What?—More Honey Samples from Our Foreign Beekeeping Friends Than Our Own United States???

We have promises of honey samples for the International Honey Exhibit at San Antonio from thirty-two foreign sources—three from Canada—and only twenty-six from the United States.

Will someone in the following states please volunteer to collect honey samples—say a five-pound pail of the chief honeys produced in each of the following states? I haven't been able to get a word from them—probably a case of knocking on the right door at the wrong time!

Who'll volunteer to send honey samples from

Arkansas?
Colorado?
Delaware?
Idaho?
Illinois?
Indiana
Massachusetts?
Mississippi?
Missouri?
Montana?
Nevada?
New Hampshire?
New Mexico?
North Carolina?
Oklahoma?
Oregon?
South Carolina?
Tennessee?
Utah?
Virginia?
West Virginia?

Hoping to be deluged by offers—
Arlene Weidenkopf, Sec'y-Treas., A.
H. P. L., P.O.Box 2020, Univ. Sta-
tion, Madison, Wisconsin.

ABJ

Enough Is Enough

A little honey is sweet, much fulsome; such is pleasure, whose insinuations are so cunning, that you shall not perceive your excess till you be sick of a surfeit.—From Samuel Purchas. (W. H. Hull, Virginia.)



Bees in the City

By Robert E. Foster,
Florida.



ABOUT keeping bees in the city, the picture with this shows a part of the apiary of W. W. Worth, of Miami. It is in the heart of the business section and one wonders what the bees find from which to secure nectar.

Mr. Worth wished to keep bees and as he had no room for the hives on the ground, he put them on the roof of his house. There was a tree growing close to one corner of the house. By climbing the tree, one could step over on the roof.

As the chief apiary inspector of Florida weighs over 200 pounds [Mr. Foster himself.—Ed.] he does not advise Florida beekeepers to put their bees where it is necessary to climb

trees to inspect them. Mr. Worth used the tree for a ladder.

The picture shows a part of the apiary. There are ten colonies. He has been fairly successful in producing honey. His bees produce as much as other bees in the vicinity of Miami.

The second picture shows an observation hive Mr. Worth has on the side of his house. This is hung on a bracket so arranged that it can be turned around to view both sides.

Mr. Worth is not only a beekeeper but is a taxidermist, and has many fine specimens of mounted birds and fish. One picture shows Mr. Worth with one of his parrots.



Comb Honey for Hay Fever

By L. R. Stewart,
Indiana.

I have quite a few customers and they are increasing, who are eating comb honey for hay fever. The hay fever victims are doing the advertising themselves, a mouth to mouth system, it being only human nature to try to do something for a fellow sufferer.

I don't know if there is any truth in this belief but I do know that I sell the honey and the hay fever sufferers say they are benefited. I have given this demand quite a bit of study with the idea of seeing if there really was any foundation for it. We have some known facts as a basis, viz., hay fever is caused by pollen. And we further know that cultures of a disease are used as an anti-toxin for that disease, in man or beast. If we want immunity to small pox we are vaccinated with poxgerms, and the same is true in regard to many other ills. And we know that all honey contains much pollen, very fine grains that even a strainer is unable to get out. Comb honey contains much more than extracted due to the cappings and the fact that straining does remove some of the larger grains of pollen from extracted. Even the whitest of cappings will be stained with more or less pollen and the longer the honey is left on the hive the more pollen it will carry, often very dark or yellow depending upon the territory. So in conclusion I have reasoned in my crude way that the pollen in the honey and on the cappings serves or acts as an antitoxin to the hay fever pollen later on. In other words it sets up hay fever immunity in the system.

I may be right and then I may be wrong; I have been both many times. However, we know the above facts and I also know I have customers who are eating comb honey for hay fever and they say it helps them. They begin in the spring, before blossom time. I have a house-to-house salesman in an Indiana city who makes his living supplying this trade. And they pay him on an average 50 per cent more for his honey than they would have to pay for honey just as good at the corner grocery.

For some time I have thought of writing an article on this, giving our experience and the conclusions we had reached but was afraid we might transgress on the scientific feelings of some M.D. beekeeper. So we just went on selling comb honey to folks to keep them from having hay fever.

"Studies on European Foulbrood of Bees"

This is the title of a publication by H. L. A. Tarr, reprinted from "The Annals of Applied Biology" by the Cambridge University Press in England and is a study of the strains of *Bacillus alvei* obtained from different sources and of other species occurring in larvae affected with European foulbrood.

It is a scholarly study conducted at the Rothamsted Experimental Station and at the Lister Institute of Preventive Medicine, London. It is more of a bio-chemical and bacteriological study intended for those interested in these phases of the subject.

ABJ

The New Four Year Rotation

By Penn G. Snyder,
Ohio.

Since the elimination of the A.A.A. by the Supreme Court of the United States, the Federal Government is putting into effect a plan which is likely to have a far reaching effect on the beekeeping industry of the country.

The plan is in a sense a double-barreled affair. First a combination of reduction of crops and the enrichment of the soil of our farms by using a four instead of the three-year rotation of crops as we have had for years. The old method was corn, wheat and grass or legume, each occupying the ground for approximately one year. The new plan is to allow the cover crop, hay or legume to occupy the ground for two years instead of one. By this method there will be one crop of corn or wheat every four years instead as we have it today every three years. By allowing the ground to remain under a cover crop for a longer period the soil will increase in fertility and when the next crop is planted a heavier yield per acre is harvested. This also reduces the labor per bushel of crops produced as one receives a greater yield for the same output of labor.

In addition to this the government is making practical demonstrations by the aid of the C.C.C. workers in the prevention of soil erosion. In some Ohio sections they have selected for demonstration purposes farms which have had gullies eroded wide enough to drive a team of horses down them. These fields are removed from cultivation in the ordinary crop rotation and are seeded to sweet clover or leguminous tree crops such as the locust which will require about twelve years to grow a crop heavy enough for fence posts.

Thus will the poor ground be enabled to grow a timber crop while the soil is being enriched yearly and erosion prevented.

Also the gullies are terraced and temporary dams are built across them at strategic points which will catch and hold the wash of the dirt and silt and in time fill in the eroded ground with the soil which would have been washed away and lost.

These two methods if only adopted by thirty per cent of the farms should result in a tremendous increase of bee pasturage over the United States.

This plan should receive the support of all the beekeepers as it will benefit every section where it is put into effect.

ABJ

Eh! What?

Sally Rand's enthusiastic fan waving was more than art when a swarm of bees invaded her dancing stage. The customers wondered at such wild abandon.—May 1, 1936.

A. H. Perins,
Florida.

ABJ

The Handel Honey Bar



WHILE the writer was attending the Illinois District No. 1 meeting of beekeepers at Savanna, Illinois, he had the pleasure of eating one of the finest candy bars that he has ever tasted.

For two or three years, Mr. Chas. D. Handel has been making a candy bar and now has it perfected. It is a honey cocoanut bar, chocolate coated. These bars were very popular with everyone at the meeting.

They are being put out commercially by the R. S. Walters Company at Clinton, Iowa, who are makers of a full line of candy bars including Dizzy Bar and a number of other nationally known brands.

This honey cocoanut bar contains 33-1/3 per cent honey which has not

been heated, being combined with cocoanut in its natural state and thus retaining all of the natural aroma and flavors of the white honey.

Mr. Walters urges beekeepers to aid Mr. Handel in the distribution of this bar which the writer personally thought to be if not the best, at least as fine as any bar he has ever tasted.

By automatic machinery, two or three tons of these bars could be made per day. Such a volume, of course, would furnish a large consumption of honey for this purpose alone.

Anyone interested should write to the R. S. Walters Company at Clinton, Iowa, or to Mr. Chas. D. Handel, Savanna, Illinois, who is a large beekeeper and where the meeting was held.

A New Departure in Screen Realism

By A. B. Laing,
California.



Joel McCrae is a beekeeper in "These Three." With him are Miriam Hopkins and Merle Oberon.

HOLLYWOOD'S most unusual "extras" had their first film job recently when 40,000 of them were cast for parts in a picture entitled "These Three"—in production at the Samuel Goldwyn studios.

The "players" were bees who, as an executive said, liked their work so much that they presented the studio with ten pounds of honey during their sojourn on the "lot." The bees actually played their roles, although what they may have thought they were doing was looking for their queen.

The script of the film demanded a scene in a New England farmyard wherein the picture's stars, Miriam Hopkins, Merle Oberon and Joel McCrae stole honey from a hive under a barn roof, much to the indignation of the insects.

With no similar demands ever having been made for movie work, and with no precedent by which to guide him, Director William Wyler obtained the services of William J. Fox, Hollywood apriary owner, who

brought his bees and by removing the queen succeeded in getting his charges to swarm again and again before the cameras. Nearby microphones meanwhile, picked up the hum.

Their movie roles however did not deter the bees from their regular occupation and the ten pounds of honey they produced was split among the actors and members of the technical crews.

Readers may be glad to learn that the movie makers are bringing an authentic atmosphere into their bee portrayals.

ABJ

Miss Davison's Recipes

Honey Date Pudding

- 2 cups stoned dates
- ½ cup walnuts
- ¾ cup honey
- 2 eggs, beaten lightly
- ½ cup flour
- 1 tsp. baking powder
- ½ cup bran

Chop dates and nuts finely. Combine all ingredients, mix well. Bake in a deep well greased pan in a moderate oven (350° F.) for 40 minutes. Serve with cream, whipped or plain.

— o —

Honey Coconut Cookies

- 1/3 cup butter
- 1 cup honey
- 1 egg beaten
- 1/3 tsp. salt
- 3 tablespoons corn starch
- 1 ½ cups flour
- 2 tsp. baking powder
- Grated rind of ½ lemon
- ½ tsp. orange extract
- 1 cup shredded coconut

Cream butter and honey till light, add beaten egg. Sift dry ingredients and add to first mixture. Add the rest of the ingredients, beat well and drop by teaspoonfuls onto a well greased cookie sheet. Bake in a moderate oven (350° F.) 15 to 18 minutes.

— o —

Honey Nutlets

- 1 cup butter
- 1 cup honey
- 1 cup brown sugar
- 4 cups flour
- 1 egg, beaten
- ½ tsp. soda
- 1 tsp. salt
- 1 tsp. cinnamon
- 2 cups chopped walnuts

Melt butter, add honey and mix well. Add sugar and beaten egg and mix well. Sift dry ingredients three times and add to first mixture, gradually stirring. Add walnuts. Drop by teaspoonfuls on a greased cookie sheet and bake in a moderate oven (350° F.) for 15 to 20 minutes. When cool place in an air tight container and leave for 2 weeks to mellow before using. Makes 4 to 5 dozen.

— o —

Honey Brownies

- ¾ cup sifted cake flour
- ½ tsp. baking powder
- 1/3 cup butter
- 2 squares bitter chocolate
- 1 cup honey
- 2 eggs, well beaten
- 1 tsp. vanilla
- ¾ cup chopped walnuts

Melt chocolate over water bath. Cream butter and honey till light. Add eggs and chocolate beating thoroughly. Sift flour and baking powder three times and add to first mixture, stirring in well. Add vanilla then nuts, mix well. Pour into greased shallow baking pan and bake in moderate oven (350° F.) for 35 to 40 minutes. Cut in squares before removing from pan. Makes 2 dozen brownies.

Insects Pollinating Onions

By F. R. Shaw, Instructor in Entomology,
M. S. C., Amherst, Mass.,
and A. I. Bourne, Research Professor (in Entomology),
Mass. Agr. Exp. Station, Amherst, Mass.

A STUDY of insects pollinating onions was made during the summer of 1935 at the Massachusetts Agricultural Experiment Station. Data were taken in the following manner.

Collections were made of insects pollinating onions growing under conditions normal for the Connecticut Valley. The material was assembled and so far as possible identified from the collection at the Massachusetts State College. The remainder was forwarded for identification to Dr. C. H. Curran of the American Museum of Natural History and Miss Sandhouse of the Bureau of Entomology. Results are as given here.

Under the conditions encountered in this season's study, the family Apidae is only equalled in abundance by the family Syrphidae of the Diptera. However in the family Syrphi-

Order	Family	Total number collected	Percentage of total
Diptera	Syrphidae (Flower flies)	30	27.8
	Metopidae (Flesh flies)	15	13.9
	Muscidae	5	4.6
	Phylomyzidae	2	1.9
	Tachinidae	2	1.9
Hymenoptera	Tabanidae (House fly)	1	.9
	Apidae (Honeybee)	30	27.8
	Andrenidae (Solitary bees)	16	14.8
Hemiptera	Bombidae (Bumble bees)	1	.9
	Miridae	5	4.6
Lepidoptera	Hesperiidae	1	.9
		108	100.0

dae some five species were taken whereas in the family Apidae the honeybee alone represents this group. It is, therefore, seen that the honeybee was the most numerous species found pollinating onions. In a previous article the total percentage of

honeybees pollinating onions was stated to be 31.8. Further observations have shown a slightly lower percentage.

There can be little doubt but that, under the conditions observed, the honeybee was the most important in-

Date	Conditions	INSECTS																
		July	Time	Temp.	R.H.	Wind	Sky	Gen. & sp.	Diptera	No.	Hymenoptera	No.	Gen. & sp.	Lepidoptera	No.	Gen. & sp.	Hemiptera	No.
16	4 p.m. 81° 62% Light	Clear	Eristalis arbustorum L.	1	Apis mellifica L.	2	Thymelicus mystic Seud.											
			Sphaerophoria cylindrica Say	1	Halticus planatus Lovell	3												
			Phenicia caeruleoviridis Macq.	5														
			Graphomya maculata Scop.	1														
18	9 a.m. 77° 73% Light	Cloudy	Phenicia caeruleoviridis Macq.	3	Apis mellifica L.	4												
			Sphaerophoria cylindrica Say	4	Bombus spp.	1	Lygus pratensis											3
			Desmomyza conofusa Curran	2	Halictus pilosus Sm.	5												
19	3 p.m. 90° 53% W.Mod.	Clear	Sphaerophoria cylindrica Say	6	Apis mellifica L.	8												
			Melanostoma pictipes Bigot	2	Halictus provancheri D.T.	4												
			Eristalis arbustorum L.	4														
			Eristalis saxorum Wd.	1														
			Tabanus triplius Wd.	1														
			Phenicia caeruleoviridis Macq.	2														
			Mericia ampela Macq.	1														
			Rhynchiodesia spp.	1														
20	10 a.m. 73° 75% NE.Mod.	Clear	Sphaerophoria cylindrica Say	6	Apis mellifica L.	5												
			Graphomya maculata Scop.	1	Halictus sparsus Robt.	1												
			Mesogramma marginatum Say	1														
			Hylemya spp.															
22	2 p.m. 80° 70% S.Mod.	Cloudy	Phenicia caeruleoviridis Macq.	3	Apis mellifica L.	6												
			Eristalis arbustorum L.	2	Halictus lineatulus Cwf.	3	Lygus pratensis L.											1
			Syritta pipiens L.	2														
			Hylemya spp.	2														
27	11 a.m. 70° 62% S.Light	Clear	Eristalis arbustorum L.	2	Apis mellifica L.	5												

sect pollinating onions. While several species of Syrphidae were taken in abundance, these insects are apparently not fitted structurally for efficient transference of pollen.

A study was also made of the comparative amount of seed produced by the same number of plants under the following conditions:

1. A four-frame nucleus of bees in an insect-proof cage covering the onion plants.

2. Wind the only pollinating agent.

Although the number of plants in the tests was limited, yet the amount of seed produced from those plants which were pollinated by honeybees was 138 times the amount produced by those which depended for pollination upon the wind alone. Growers of onions for seed, therefore, might find it beneficial to provide themselves with a supply of honeybees.

IBJ
remain clear even after it has been extracted for several years.

A number of neighboring beekeepers move their bees into this section each fall during the blooming period. They harvest an average of from 40 to 100 pounds of honey per colony as a surplus. The beekeepers are careful, however, not to move the bees into this section until the honey-flow has begun and they take the bees away as soon as the flow appears to be about over. There is considerable foulbrood native to the section and if bees are left in the area when robbing takes place the colonies are in danger of contracting the disease.

This area was the center of an extensive program for migratory beekeeping in years past but the interested beekeepers gradually died or quit the section because of the prevalence of foulbrood. In recent years interest has been renewed to some extent and a few neighboring beekeepers are again taking advantage of the heavy fall flow.

The enclosed picture shows the writer standing in a growth of smartweed.

ABJ

The Marigold Section of the Lower Delaware River

By Edwin J. Anderson,
State College,
Pennsylvania.



Giant heartsease (Smartweed).

ONE of the unusual honey producing areas of the country is the section along the Delaware River where the so-called marsh marigold blooms and the marigold honey is produced. This area is low and swampy in nature, and a considerable part of the area is protected against floods by the dikes built along the river. There is a deep deposit of rich black soil and sand in which the nectar producing flowers grow and bloom. A few years ago flood waters broke through the dikes and flooded this area. Most of the honey plants were submerged and destroyed so as to materially reduce the honey crop that season.

The honey producing flowers bloom during latter part of August and early September during which time there is normally a heavy honeyflow. There are a number of flowers blooming which secrete nectar at about the same time. They are the marigold, a variety of Beidens or Spanish needle, the golden rod, the wild aster and the smartweed. During the blooming period many areas are a bright yellow mass of bloom very pretty to look at and very attractive to the beekeeper who knows that most of these flowers are secreting nectar abundantly.

In this section which seems like a part of a foreign land to the new

visitor are small areas of giant smartweed. This variety of smartweed is a plant as unusual as marigold, and like the marigold it is not found anywhere else in this part of the country. The stalks of smartweed are larger in diameter than cornstalks and grow to be fifteen feet in height. The blossoms are pink in color and are at the top of the stalks. The bees are quite active on the blossoms. Most of the surplus honey, however, appears to be produced by the marigold. Areas covered with the smartweed are like so many small jungles. The stalks are fairly close together and so high that one must look up to see out. The fear of being lost soon grips one if he travels any distance into the growths of smartweed.

Flocks of reed birds, redwinged black birds and others are seen flying here and there as they feed on the abundant supply of seed which is produced by the marigold and smartweed. The many large flocks of birds help to make the section appear foreign.

The honey produced from these flowers is bright yellow in color and possesses a pronounced flavor. The honey is generally sparkling clear and very attractive in appearance. It crystallizes very slowly and will often

A Report on Lespedeza

By Frank Derrenbacker, Jr.,
Virginia.

I CANNOT yet say definitely how valuable Lespedeza is here, but I assure you that what I report is from experience. I do think variety and soil have something to do with any clover producing nectar. For instance, alike clover grown here in Virginia is no good for the bees; at least I have never seen bees on it.

I have observed it for four years but know nothing about it outside of this locality.

Korean Lespedeza is a native of eastern Asia. Its popularity in Virginia has come about during the last three or four years. It has a place in Virginia agriculture and is becoming more popular each year as the farmers learn to use it to the best advantage.

As a honey plant, as well as in agriculture, its place, as I see it, is not to supplant sweet clover, but to serve as an additional forage plant because it grows on acid land and without inoculation.

I have seen the bees working the small, purple, inconspicuous blossoms in a businesslike way along about the time sweet clover has dropped its bloom—a time of year when it helps to keep the bees busy and serves to take up the loss in stores during the latter part of the summer. So far, I have not received any surplus from it. Here in central Virginia, during the past two years, we have not been able to rely on the forests as a bee

pasture as we have in the past. I believe the beekeeper here will have to depend on agriculture in the future.

I conclude that Korean Lespedeza is of some value for bees but not much for the production of honey.

ABJ

A Good End Spacer

By E. G. Carr,
New Jersey.



Figures 1, 2, 3, 4, 5, from left to right. The end spacing tack, Fig. 5, is the one Mr. Carr likes.

If one may judge by the frequency of changes in beehive equipment, and this seems to be a logical method of judging, improvements are desired.

One of the hive parts which has been subject to changes is the frame end spacing device.

The frames of the first movable comb hives had long top bars, hence no end spacing device was needed. The difficulty of removing frames with long top bars is so great in some parts of the country that the top bars were reduced about one-half an inch in length and a staple shaped as in Fig. 1 driven into the end bar directly under the lug of the top bar.

To keep the staple from being easily forced deeper into the end bar and thus destroying its value as an end spacer, it was made of rather heavy wire. In too many cases this resulted in the end bar being split when the staple was driven into it.

Dr. Miller used unspaced frames and a nail as a side spacer. In his book "Forty Years Among the Bees" he expresses the wish for "a lighter nail with a head one-quarter inch thick which could be automatically driven to the correct depth without a gauge and without the possibility of being driven further in by any amount of crowding." Apparently he found the end spacing staple fairly satisfactory.

One beekeeper's supply house, in working on this problem, considered an end spacing nail such as Dr. Miller had in mind, but found the cost would be prohibitive. In 1920 this concern devised a staple made of smaller wire and shaped as in Fig. 2. This was free from two of the faults of the old heavy staple. It did not split the end bars and it could not work too deeply into the wood—the crooked leg prevented that.

Since this staple was introduced, the same concern has made two changes in the lug of the top bar. These were intended to make the use

of a staple unnecessary. The first was to make the top bar long but one-quarter inch of the extreme end was but one-quarter inch wide. Alas and alack! however, the bees hesitated not a bit in gluing the end fast to the hive end.

The other change was to leave a boss on the underside of the lug of the short top bar.

This arrangement was also suggested by Mr. Hall, of Wheeler and Hall, California, and is illustrated on page 918 of the December 15 issue of *Gleanings in Bee Culture* for 1892.

Since this boss involved a contact of wood with metal—the hive rabbet—bees did less gluing than was done with the small end long top bars.

Another beekeeper's supply house used the old style staple, Fig. 1, up to 1923. It then introduced a staple shaped as in Fig. 3. As the writer has observed this staple in the hives of many beekeepers, while doing inspection work, it was apparent that but few if any, beekeepers were able so to place the staple that the frames would not ride up at one end or the other. Another unpleasant behaviour of frames equipped with this staple was, when a hive body was placed on end the frames would scoot out of the body.

Whether users voiced objections to this device or not, the next move of this concern was to advocate, strongly, the use of long top bars.

In places where propolis is plentiful, bees react to these long top bars just as they did years ago—they glue them fast making it necessary to use much more time than is warranted in manipulating them besides being exceedingly hard on the beekeeper's disposition.

In 1933 another staple was introduced by this concern. It was shaped as in Fig. 4. The writer has not seen these in use nor has he heard any comments by users.

On page 585 of *Gleanings in Bee*

Culture for 1910 Mr. S. King Clover, Mabton, Washington, asks "By the way, can we not have something on the line of a large upholstery tack, or something of that nature . . . something with a round head $\frac{3}{8}$ or $\frac{1}{4}$ -inch thick, with a central nail or brad * * * ?"

Since there is so much propolis gathered by bees in my locality that long top bars are impractical if one expects properly to manipulate bees in a reasonable time, I have long asked the question as did Mr. Clover.

What appears to be the answer came about a year ago when a brass headed upholstery tack, of the hob nail variety, was found. It is shaped as in Fig. 5. It is made in Connecticut.

One year's use of this tack as an end spacer has shown no undesirable feature. Further test may be desirable to discover any unsatisfactory feature in this arrangement. However, where long top bars are impractical because of the abundance of propolis, there seems to be every reason to believe this upholstery tack will be satisfactory as a frame end spacer.

ABJ

Jump Traps for Skunks

From time to time one sees various methods of exterminating skunks from bee yards recommended. Of these we have tried several ranging from poisoned baits to jack-lighting but have given them all up for trapping with small jump traps. These can be had from the large mail order companies for just a few cents each. We hitch them to some pole weighing about five or six pounds and the skunks never drag them very far before they become caught in the brush. It is not necessary to cover the traps; in fact, the covering seems to prevent them from catching sometimes. Set a trap at the entrances the skunks have been scratching.

If we had not been trapping this entire winter, many of our colonies, if not entire yards would have been depleted. In our thirty-two years of beekeeping we have never seen skunks so prevalent as they are this year.

We have read that, if a sure shot is made in the head and the creature instantly killed, there will be no alarm given. However, this did not prove to be the case in each instance that we witnessed, and we advise anyone trapping skunks to keep at a respectful distance from them.

L. L. Ferebee.



MAJOR VON HRUSCHKA

Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.



MAJOR FRANZ EDLEN VON HRUSCHKA 1819-1888

FRANZ von Hruschka, gentle-mannered Austrian major of Legnano, packed up his "smelatore" and took it with him to the great convention of Austrian, German and Hungarian beekeepers being held at Bruenn, Germany, in 1865.

There, before the eyes of the bee men, he made honey to flow from the comb! Not once, but several times!

Von Hruschka's "smelatore" did not appear to be much of an instrument—just a square tin box with a stoppered funnel-shaped bottom that he flung about at the end of a rope like a sling. He put a comb in the box and after much turning about the honey ran out. After the funnel was full, he removed the stopper and the honey ran through a tin cloth into a glass. Surely nothing here to grow excited about.

But wasn't there something! Even before the major finished his demonstration, voices broke out all over the hall. This thing had been the object of their search for years. Eureka! No more mashing of combs to get honey. Now they literally could eat their cake and keep part of it, too. Eat the honey and keep the comb! Loose the bees from their endless labor of rebuilding comb to throw their full energies into the honey harvest.

Ah, this man was a benefactor! Three lusty cheers went up for Hruschka. The presiding officer, Mr. Nakh, shook the inventor by the hand, then embraced and kissed him. The meeting became a bedlam of enthusiasm and could hardly be restored to order.

Surely, no invention was ever accorded more instantaneous recognition. The *Bienenzitung*, German bee magazine, carried the news and

His invention was hailed, in the whole beekeeping world, as the equal to and the complement of, the invention of movable frames; and it fully deserved this honor.—C. P. Dadant.

a full description of the implement to the German beekeepers. Beekeepers all over Germany began making their own "smelatores", only they called them "honigschleudermaschine." Strained honey was already known in Europe because the wax was extensively removed for wax candles.

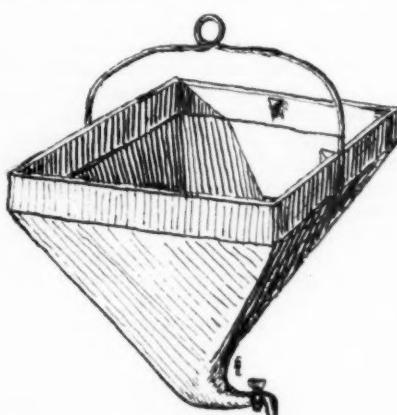
The alert eye of the American, Reverend Langstroth, caught the news of the machine in the *Bienenzitung*. He sat down and wrote a description of what he called the "honey emptying machine" for the *American Bee Journal*. He made one for himself, all the while reproaching himself for not having thought of the same principle first. Hadn't he seen water flying from a grindstone, mud

being cast off a speeding cart wheel? Any child with eyes should be able to devise for himself a honey emptying machine. Not content to be author of the greatest aparian invention of all time, his movable frame hives, the old minister was chagrined because he had not to the credit of his name the second greatest also.

Langstroth's movable frames and now this honey emptying machine—the Americans were soon calling it the honey extractor, although it should have been called the "Hruschka" the world over—fast ushered in the era of commercial honey production in this country.

Beekeepers who tried the new implement were surprised at the size of the harvest. How quickly the bees filled the newly emptied combs! They were not prepared. Soon the containers they had waiting overflowed, and they had to make quick trips to town for barrels. Or borrow their neighbors' tubs. A. I. Root even planned to scour out his cistern if he ran out of other places to put the honey that gushed from his machine.

The movable frame. The honey extractor. These were the twin genii that lined the beekeepers' pockets and made of their pursuit a dignified calling. Surely then, the worthy Austrian major became an honored and a wealthy man after conferring a great benefit on his fellow men? Indeed, he was honored. Honors were heaped on him by all the societies of



Hruschka's extractor.

central Europe. One other apiarist alone in Europe, Dr. John Dzierzon of Karlmarkt, was lauded above Hruschka.

But of money he had no more than our Reverend Langstroth. He spent his last years in a poverty so grinding he nearly lost his mind from the worry of it. A few years ago there was not even a stone to mark the resting place of Major Franz von Hruschka, inventor of the honey extractor.

The later lives of the two men, Hruschka of Venice, Langstroth of Ohio, were much alike. Langstroth had a mind akin to genius, was idolized everywhere for his simple heart, yet at times was almost insane through his bouts with want and his mental preoccupations. Hruschka, too, was learned and simple, everywhere beloved. And his intellect also was impaired by worry and poverty. Both men grew at moments to hate the very inventions to which they were so devoted. There was lacking in the alloy of both men some hardness needed to stand stress and strain.

Major Hruschka told so little of himself we know almost nothing of his early years to the time he retired from the Austrian military service at the age of forty-six. He left few records of himself. The Reverend Ivan Kitzberger, of Czechoslovakia, who collected material for a long biography of Hruschka, going to his home city for the purpose, but who died before his story could be put into print, searched for a scrap of writing by him for an autograph, finally finding his application for a military pension at the Austrian war office.

Hruschka was born in Vienna, Austria, in 1819, the son of an artillery officer, a nobleman who wanted his son to be a military man. Franz followed his wishes. He was first in the army, then in the navy, took part in many campaigns, and attained the rank of major. He was commanding at Legnano, near Venice, when he retired.

Franz married a woman of money, the adopted daughter of a rich lady. In addition to a farm at Dolo, she owned a hotel in Venice, and apparently one at Dolo also. They had several sons.

The major should have so managed his wife's property to multiply her money in the accepted manner of estates. But, to all appearances, he helped to squander her resources. He spent his time at the farm. He cared little for farming, but he has been described as a "passionate bee-keeper." He had an apiary of 240 hives, he reared Italian queens, manufactured hives and other beekeepers' appliances. And he worked on his inventions. He invented a steamboat which he floated on the grand

canal at Venice. But he made no money from any of his contrivances.

We all know the extractor invention story. It is a classic of beekeepers' lore. The major's wife gave their little son a basket to get some honey from his father in the apiary. Hruschka placed some uncapped honey in the basket and the boy hastened home. When bees buzzed about his head he swung the basket to keep them off. He kept the basket swinging around his head most of the way to the house. All noticed that much of the honey had drained out of the comb. But the father noticed more. He noticed that the comb was uninjured. He scratched his head, pondered. Then he built his tin box, the first honey extractor, which was not much different in operation from the basket.

But the Reverend Kitzberger investigated and reported there is no truth to the story. No member of the family could confirm the legend. Kitzberger said the major had accumulated many experiments before he could extract by centrifugal force, that there was no chance about his invention.

Thus do careful men destroy many of our best tales! I do not know if any basis for the tradition can be dug up at this late day; but it has been told for so long it is not likely the Czechoslovakian minister's skepticism will put an end to it.

Hruschka set to work at improving his honey extractor and was so diligent that Reverend Kitzberger said no improvement was offered until the time of his death, in 1888, that he had not already thought of and applied.

Extracting honey was slow with the tin box, so he made two boxes and hung one from each end of a twelve foot beam placed on a pivot. Two ropes, one unrolling while the other rolled up, moved the slinging boxes. A cumbersome machine. Soon he made an extractor turned with a crank and two wheels of different sizes, joined by a string. His later improvements were a refinement of this model.

He made models of these first three extractors, the box, the beam and the wheels, and exhibited them at the exposition of insects in Paris in 1868, three years after his first invention. They did not appear, however, under the name of Franz von Hruschka, but were credited to Angelo Lessame of Dolo, Venetia, so modest was the inventor.

He went to the conventions with new improvements. He added a spirit lamp which warmed the combs, making it possible to extract in cool weather. He hooked a large extractor to a steam engine similar to our old threshing machine engines. And he

hinted he had a plan to do away entirely with the tedious work of uncapping the cells.

The members of the societies always were pleased when they found Hruschka in their midst. They covered him with all the honors they had to confer. The major probably found this very gratifying, for he had troubles at home.

The men who were in charge of the Hruschka hotel in Venice proved themselves rogues, damaging the property and even carrying off some of the equipment. Hruschka found his financial affairs badly involved. Finally, the family had to sell the household furnishings and part with the farm at Dolo to satisfy the creditors.

Hruschka could not bring himself to sell his bees, but gave them to friends he knew would care for them, saving only two hives for himself in order to console his spare hours at Venice.

Many vexations broke his mind and he took to his bed, where he spent most of his last ten years. Even in bed he made many models of his honey extractors, then threw them into the fire as soon as they were completed, along with manuscripts and other personal belongings that would be valuable today.

The major died, not yet seventy. His poverty-stricken family could not provide a burial plot and his remains were consigned to potter's field.

The beekeeping fraternity were forgetful of the inventor in his last days, but they were not quite so careless with his invention. There are in existence today at least three models of the first extractor as it came from Hruschka's hand. Two of them are to be seen in the apicultural museum at Vienna. The third is in the hands of a private company.

—ABJ—

Saskatchewan Figures

While commercial beekeeping was undertaken only fourteen years ago, Saskatchewan Province now has 2,680 registered apiaries and produced a record high crop of 1,051,361 pounds of honey in 1935, an unfavorable year. These figures are by R. M. Pugh, Provincial Apiarist.

Saskatchewan exhibitors took first, second, third and fourth prizes at the Royal Winter Fair in Toronto on liquid honey, and the only entry of granulated honey from the province took first prize. The carloads of honey exported to Great Britain in the last three years always secured a premium. Sweet clover is the source of 95 per cent of the province's honey.

F. H. Fullerton,
British Columbia.



Meetings and Events

Largo, Florida, Meeting Report

A combination meeting of the Florida State Beekeepers' Association and the Pinellas County Beekeepers' Association was held at Largo, Florida recently. Of the fifty-eight persons present, twenty-three were from the North. From Ohio were six; Wisconsin, six; Illinois, two; Michigan, two; New York, three; New Jersey, two, and one each from Ontario, Iowa and Tennessee.

Mr. W. D. Achord, of Ohio, discussed the significance of the word **pure** on honey labels. He contended that inquiry had disclosed that the very fact that this word appears on honey labels creates an impression, by inference, in the minds of the majority of persons, that impure honey is being marketed. He pointed out that on but few food products does the word **pure** occur. His belief is that one should express surprise when questioned regarding the purity of honey—surprise that the questioner should entertain such an idea that impure honey is on the market. He favored, when possible, naming the floral source of the honey on the label.

Mr. Achord's experience was that since leaving the word **pure** off his honey labels in 1921, he had but two questions regarding it.

Mr. John N. DeMuth, of New York State, contended that the price of sugar ruled the price of honey. He said that but a small proportion of the honey produced is bottled.—That when honey is used in baking a smaller amount of shortening is needed, which he states, is one factor in the larger use of honey by bakers since the price of shortening has sharply risen during the past few years.

Theft and molestation of apiaries was discussed and a committee named to formulate a plan to provide reward cards to be posted in apiaries.

The favored plan was to sell the cards to apiarists, the first to cost one dollar and each additional fifty cents, the fund so created to be used for paying the rewards. The plan to have the State Association support the project rather than some other state officials, it was thought, would serve to give greater publicity to the Association.

One suggestion was to have the cards void at the end of the year. Coating the cards with a clear varn-

ish, it was said, would keep them in good condition for a year.

At the request of the president, E. G. Carr, of New Jersey, spoke in favor of support for the American Honey Institute. Following this a contribution was received amounting to thirteen dollars for the Institute work.

State Bee Inspector, R. E. Foster reported that during the first six months of the fiscal year there had been expended for inspection work \$6,801.88. One thousand seven hundred and eleven apiaries were inspected containing 31,415 colonies of bees. In 24 apiaries were found 82 colonies infected with American foulbrood. Work had been done in 51 counties.

There are now two full time and six part time inspectors employed. The part time men work about twenty days a month each. An appropriation of \$15,000 is now available for bee disease control work in Florida.

Florida beekeepers claim to have the largest honey display in the world at the Tampa Fair which is held the first part of February. At the last fair there were nine booths showing honey with approximately 8,000 packages containing about twelve tons of honey.

By E. G. Carr,
New Jersey.

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Rahmlow Speaks at Sheboygan

Lime in the soil is the key to honey production, H. J. Rahmlow of the Wisconsin Horticultural Society told members of the Sheboygan, Wisconsin, Association at Plymouth, May 13. In those sections of the state where there is sour or sandy soil, beekeeping is gradually dropping off. Clover and alfalfa in lime soil give a large amount of nectar, according to Mr. Rahmlow.

The past cold winter resulted in heavy loss of bees, and those who kept bees in cellars secured the best results. Mr. Rahmlow recommends a cork-lined building above ground as the best protection, to be kept at a temperature between 35 and 40 degrees.

For outside wintering, Mr. Rahmlow suggests packing in the top and bottom of the hive and tar paper wrapped around the outside, introducing the young queens in August for September brood and a strong spring colony.

A state-wide program is being started to eradicate foulbrood and next year a bill will be introduced in the Wisconsin legislature for the appropriation of \$20,000 to carry on the project. Beekeepers at the meeting declared foulbrood inspection should start immediately and expressed anxiety over the outcome of this year's honey crop if the disease is not checked.

Mr. Rahmlow explained the new bee law, saying a tax of 25 cents is levied for the first colony of bees and 10 cents for each additional one, and no further tax can be levied on equipment or supplies. One-half of the tax is sent to the state for bee disease control, and the other half remains in the county.

Wisconsin Trade News Bureau.

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Fine Meeting at Burley, Idaho

We had the first meeting of the 1936 Mini-Cassia Association on Sunday, April 26th at the home of Mr. E. J. Farnsworth of Rupert. Officers were elected as follows: C. C. Barlow, President, Mr. Budge retiring; A. A. Larson, Vice-President, C. C. Barlow retiring; Frank Beach, Secretary for the third year. The Board of Directors: Frank Beach, Sr., Clyde Clemens, and E. J. Farnsworth.

Prospects are good this year.

Frank Beach,
Secretary.

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Peoria County Meeting Suggests Many Things

On April 7th I attended the meeting of the Peoria County Association at Pekin. B. F. Bell of Kingston Mines, speaking of foulbrood mentioned his opinion that it will always be present, and cannot be eradicated, and can only be controlled. My belief is that it can be eradicated.

The discussion at the meeting brought to my mind the disease called "Rope," formerly so much dreaded by every baker and brewer. Not many years ago bakeries were burned to control the disease. Today, it hardly exists, and when it does appear it is easily controlled. During the warm season every progressive baker takes precautions to see that the organisms causing the disease do not get a medium in which to propagate. The eradication is nearly complete.

Associating this with our present problem of American Foulbrood I believe proper organizing in the bee-keeping industry will eradicate our trouble also.

At this meeting, internal strife was predominant, indicating that state organizations cannot cope with the difficulty. Not all states have supervised inspection. If they did, we would have an unwieldy unit of forty-eight separate organizations which

would, no doubt, be hampered as it is in Illinois.

At the meeting it was brought out that efforts should be turned toward the proper officials at Springfield to get an increased appropriation to hire more inspectors. It seems to me there is only one way to eradicate the disease, and that is to organize the industry directly under the supervision of the federal government with every bee inspector a trained and educated individual, and under Civil Service.

Other divisions of the United States Department of Agriculture are under Civil Service. There is no bluffing or pull when a person gets a job as a Cotton Specialist, or some other technical position. He must know his business; his training, experience and character must be sufficient to qualify him, and even then he must complete a trial period.

In my opinion every beekeeper should be licensed by the government under a cost of a cent per hive or a dollar minimum. This would bring in in Illinois over \$25,000 a year and not work any hardship. The organization would then be powerful and self sustaining, and every beekeeper would welcome inspection instead of dreading it, because he would have confidence and respect for the inspector.

Within five years under this plan American foulbrood would be disappearing because there would be the power of eradication present. State organizations cannot cope with the difficulty because of politics and personality. Inspection in one state is of little value if the surrounding states have none.

W. M. Cohenour,
Illinois.

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San Antonio Meeting of Apiary Inspectors

The Apiary Inspectors of America will hold a meeting in conjunction with the International Conference of Beekeepers at San Antonio, Texas. The dates of the Conference are November 22, 23, 24, and 25, 1936. The Apiary Inspectors meeting will be held on Wednesday morning, November 25. A good program is being prepared, and a number of subjects of importance will be discussed. It is expected that there will be a large number of State Apiary Inspectors in attendance. We have assurances that some apiary inspectors and beekeepers from foreign countries will attend.

I wish to urge all apiary inspectors to make a special effort to attend this meeting. I also want every one of you to give some serious thought to the apiary inspectors' organization, and ways in which it might be of benefit to the bee industry. If you have any suggestions, we would appreciate your sending them in. Every

apiary inspector in America is a member of this organization. The officers of an organization cannot make that organization a success unless they have the cooperation of the members. The degree of success of the organization depends directly upon the cooperation that the officers receive. It is true that some men have the ability to get cooperation from their fellow workers better than others, and this should be taken into consideration when electing officers. Men of this type should be selected.

The following committees have been appointed:

Program Committee: W. E. Anderson, chairman, Louisiana; R. G. Richmon, Colorado; F. B. Paddock, Iowa.

Constitution and By-Laws: Jas. I. Hambleton, chairman; Dr. R. L. Parker, Kansas; J. A. Monroe, North Dakota.

District Meetings: J. V. Ormond, chairman, Arkansas; W. H. Wicks, Idaho; C. L. Duax, Illinois; E. S. Prevost, South Carolina.

National Apiary Inspector: E. R. Root, chairman; Kenneth Hawkins, Wisconsin; (Other members to be appointed by chairman).

Uniform Laws: C. A. Reese, chairman, Ohio; A. G. Ruggles, Minnesota; H. M. Krebs, California; F. L. Thomas, Texas; A. C. Gould, New York.

If you have any suggestions to make that would be of help to these committees, please send them to me or, better still, get in touch with the chairman of the committee. If we all do our part, we will have a really worthwhile meeting at San Antonio.

Robt. E. Foster, President,
Apiary Inspectors of America.

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Honey Cookery Activities at Illinois State Fair, August 15-23

There will be demonstrations at the Cooking School and Bee Culture Exhibit under the supervision of Mrs. Irene W. Duax. Monday, August 17th—Honey Cookie Day. Cookies furnished by Montgomery County Association. Mrs. Wesley Osborn, Hostess. Tuesday, August 18th—Honey Marmalade served on crackers by Piatt County Association. Mrs. Ralph McInnis, Hostess. Wednesday, August 19th—Honey Fruit Punch served by Lower Illinois Valley Association with the Secretary, Mrs. Hoyt Taylor in charge. Kewanee beekeepers will assist.

Thursday, August 20th—Honey Caramel Day. Caramels furnished by Cook-DuPage Association and made from Illinois second prize winning recipes, National Honey Cookery Contest. Hostess Mrs. Eleanor Nelson Simmer.

Friday, August 21st—Honey Cake Day. Cakes furnished by Macon

County Association and made from prize winning recipes from Illinois State Honey Cookery Contest. Mrs. C. W. Musselman, Hostess.

Other Associations not sponsoring a day at the Fair may do their part by sending in bakers to be used in Bee Culture Food Exhibit. Candy and canned fruits will be appreciated. Beekeepers who promised five or ten pounds of honey in addition to the cash prize, please send honey for the fair. Last year's Honey Cookery Exhibits were doubled, because of these honey prizes.

Results of the first Illinois State Honey Cookery Contest—29 entries; Judges, Mrs. Irene Duax for yellow cakes; Mrs. Emma Peters for white cakes; Mrs. Eleanor Simmer for honey chocolate bran cookies. First prize for white honey cakes—Mrs. Ruth Keiner, New Athens; second, Mrs. Catherine F. Osborn, Hillsboro; third, Mrs. Emily Holmes, Chicago. For yellow honey cakes—first, Mrs. O. W. Kennett, Ohlman; second, Mrs. Jos. Kosar, Belleville; third, Mrs. H. A. Kelm, Webster Grove, Mo.

Honey chocolate bran cookies—first prize, Mrs. C. W. Musselman, Oceana; second, Mrs. Catherine F. Osborn; third, Mrs. C. W. Duerrstein, Galena.

Recipes will be in the new Illinois leaflet to be printed in July.

The following is the outline of the contents of the new leaflet: "Honey Flavors, Honey Facts, Does Honey Need Pasteurization?, Five Rules for Baking With Honey, Recipes Winning 1st Prize at the Ill. State Cookery Contest, White Honey Cake, Yellow Honey Cake, Honey Chocolate Bran Cookies, also for Creamy Honey Topping, Oatmeal Cookies first prize recipes.

Suggestions on the uses of honey, honey baked ham, honey sandwiches, honey lemon pie, honey pumpkin pie, honey caramels, latter from Illinois recipe winning second prize at the National Honey Cookery Contest.

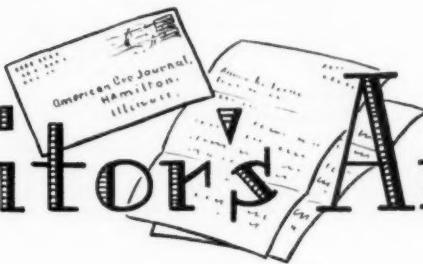
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Bronx County Beekeepers' Association Meeting, August 9th

The next monthly meeting of the Bronx County Beekeepers' Association will be held August 9th, at the apiary of Gus Flother, 1369 Fulton Avenue, Bronx, N. Y. Gus is a beginner but he sure knows how to produce honey. He is no mean artist either and after you are through giving Gus's pet bees the once over you may retire to his art gallery and enjoy some nice paintings. We expect a good turnout at this meeting. I bet Gus will have some surprises too. Come one, come all, let's get the spirit of the Hive.

John S. Ferguson,
Secretary.
(Please turn to page 408)

The Editors' Answers



Feeding Queenless Reservoir Colonies

If queens are kept in a queenless colony, is it necessary to feed the colony if there is no honeyflow to insure the queens being fed by the bees? — MINNESOTA.

Answer.—It is not necessary to feed a queenless colony which takes care of queens unless there are more than a dozen or so queens. If you had a frame holder for the queens in cages at a time of dearth with 25 or more queens, it would be well to give them a thin feed occasionally until the queens are used.

—ABJ—

How to Prevent Foundation from Warping in Shallow Frames for Chunk Honey

Please tell me how foundation in shallow frames may be kept from warping in the production of chunk honey. — WISCONSIN.

Answer by Newman I. Lyle, Sheldon, Iowa, specialist in chunk honey production.—There are many reasons for chunk honey warping in shallow frames. Uneven heat from the cluster will cause the center to draw out of shape slightly, causing waviness in the entire sheet. Greater heat from the sun on one part of the hive and super than on another will cause it. Too small a colony will start drawing foundation in a small spot, or a strong colony will do so on a light flow. When bees draw foundation, they expand it slightly, causing warping in the rest of the sheet.

When fastening foundation in the frames, care should be taken to have the top edge evenly and solidly fastened. A little spot that pulls away will cause a large bulge. I have found that if the sheet of foundation is set after the melted wax is applied to stick it to the top bar, some torsions seem to be overcome. To set the foundation, immediately after applying the melted sticking wax, place all the fingers on the sheet of foundation and jam it into the top bar. Do not do this very hard, but enough to give a solid feel to the sheet after the wax has set up.

After all is said and done, there is only one time to draw foundation, and that is in a heavy flow. If colonies are strong and of a strain that shows marked ability to produce chunk honey, good combs will result if given proper management and a good honey-flow. Everything else is secondary. If too long a time elapses after the foundation is given to the bees, before they draw it, it will wave, because the sheet is rigid in the top bar and the lower portion expands and contracts.

The production of good chunk honey takes practice and attention to many little details.

—ABJ—

Questions About Foulbrood

Please explain how the spore of *Bacillus larvae* become active.

Answer.—The spores of *Bacillus larvae* are the resting stage in the life of the organism to carry it over unfavorable conditions of food supply necessary for its vegetative growth. The spores must come into a proper food supply such as is given in the intestinal tract of the honeybee larva after the larva has developed beyond its feeding stage and has become quiescent in the sealed cell. The sugar content of the intestinal tract of the larva has then been used up by the digestive process and conditions are ripe for the spores of *Bacillus larvae* to germinate and begin active growth. This vegetative growth, therefore, is a result of proper food conditions.

The final result, of course, is the death of the larvae, and the ropey matter in the cells of a comb infected with American foulbrood is the decomposed remains of the larval tissues resulting from putrefactive activity caused by the growth of the germs of *Bacillus larvae*. These remains contain none of the food material useful to the germ in its vegetative growth, and so, the spore stage is again reached. The ropey remains and dried scales are the source of spores which get into the honey and cause the spread of the disease.

—ABJ—

Stingless Bees

Please tell me about the stingless bees now being reported in the newspapers.

ILLINOIS.

Answer.—Probably the bees about which you have heard do not exist except on paper. Some time ago a report was issued concerning bees developed in New Jersey and in Indiana, both of which were reported to be stingless. They were merely gentle bees, possessed, however, of the usual stings and able to use them on occasion. This is another newspaper story.

—ABJ—

Making Rapid Increase

I would like to know how to make a big increase the cheapest way without damage to the honey crop. I have seven colonies and want to have twenty. — MICHIGAN.

Answer.—It would be difficult to increase seven colonies to twenty without damaging the crop. About the greatest increase you could make from seven colonies would be three or four, and that might hurt the crop some.

A good way to make increase from a small number like this is to draw off one or two combs of brood from each colony, placing two or three each in new hives and setting the hives in new locations, giving the divisions new queens. They should be located in a place at least two miles away from the original yard.

These small divisions may be given brood and bees from time to time as the other colonies will spare it. Working in this way, you might increase from seven to ten or twelve by the end of the year.

If you wish twenty, it is suggested that

you buy eight or ten packages from the South.

—ABJ—

Sting of the Queen

Can a queen bee sting a person?
MISSOURI.

Answer.—Occasionally a queen will sting. Virgin queens sting more often than laying queens. Apparently laying queens use the stinger for placing eggs at the bottom of the cells and it becomes soft and pliable and cannot pierce the skin. Queens often extrude the ovipositor or stinger when held in the hand but they do not seem able to use it. Virgins, on the other hand, are able to sting readily.

Queens sting one another or other bees more readily than human beings.

—ABJ—

Meetings and Events

Vermont Meeting on Saturday, August 22nd

The regular annual meeting of the Vermont Association will be held Saturday, August 22nd, at the apiary of the Everett Orchards, Bennington. This is the largest apple orchard in the state, consisting of 600 acres, and several hundred colonies of bees for pollination.

The program will be of special interest to both beekeepers and fruit growers, with Prof. Rea of Cornell University and Carl Van Deman of the University of Vermont as speakers, and demonstrations of apiary practice particularly taking off honey with the use of carbolic acid. We hope all interested will come, with questions and problems. Those in neighboring states are invited.

Charles Mraz, Secretary,
Vermont Association.

—o—

Georgia Association at Tifton, September 16th-17th

The annual meeting of the Georgia Association will be held at Tifton, September 16 and 17. It will be one of the most important meetings in years with a fine program, plenty of entertainment and a general good time.

C. P. Smith, Sec. & Treas.,
Enigma, Georgia.

—o—

Centre County, Pennsylvania August 6

The Centre County Beekeepers' Association of Pennsylvania will hold an annual picnic at White Pine Bee Farms, Rockton, Clearfield County,

Pennsylvania, August 6th. All cars should be at the Bellefonte Post Office not later than 8:45 in the morning to get stickers and to leave sharply at 9 o'clock. We are trying to get the Blair and Clearfield County Associations to join and make it a real day.

A. R. Houser,
Secretary.

—o—

DeKalb County Meeting, August 9

The next meeting of the DeKalb County Beekeepers' Association will be held on Sunday, August 9, at the Forest Preserve on Route U.S. 30 west of Elburn one mile.

It is an all day meeting, pot luck dinner at noon and all the beekeepers of the surrounding country are invited to attend. The usual enthusiastic meeting is expected.

Carl H. Tudor,
Secretary.

—o—

North Carolina State Fair October 12-17

The state fair in North Carolina will be held October 12-17 this year. It would be a great help to the honey industry for the North Carolina Association to put on an exhibit, and we would appreciate some of your best honey for this display. After the fair, it would be sold and the proceeds sent to the donor. Correspond with me about it.

F. B. Meacham, Sec.-Treas.,
North Carolina Association,
State College Station, Raleigh.

—o—

Meeting of Vermillion County (Ill.) Association, August 15

There will be a meeting of the Vermillion County Beekeepers' Association on Saturday, August 15, at 2 o'clock at the home of Mr. Joe Ault, one-half mile east of Collison, Illinois.

F. W. Morrison,
Secretary.

—o—

Field Meeting, Lebanon, N. J., Thursday, August 6th

A field meeting for beekeepers will be held in the State Test Apiary on the Emmett Hoffman Farm, near Lebanon, N. J., on Thursday, August 6th, starting at ten o'clock a.m. D.S.T.

Follow the red arrows from New Jersey route 28.

E. G. Carr,
Secretary.

—o—

New York to Chaumont Bay August 15th

The annual outing of the Empire State Honey Producers' Association will be held at Long Point State Park, on Chaumont Bay, Saturday, August 15th. The road leading to

honey jars

"Exceline Jars" . . . range in size from $\frac{1}{2}$ pound to 4 pounds.

"Tall Cylinder Jars" . . . range in size from $1\frac{1}{4}$ oz. (individual service) to 3 pounds.

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Hazel-Atlas offers a wide list of containers for the honey packer—the Tall Cylinder, the Skyline, the Beehive—and now the new Exceline Jars. All easily packed and labeled. Write for free samples.

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Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.

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Untested queens, 50c each. 2-lb. pkg. of bees with queen, \$1.95. 3-lb. pkg. of bees with queen, \$2.55.

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Years

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Memorial Highway.

A program of interest to young,
old, male and female has been ar-
ranged. Beekeepers and their friends
from all sections are invited. For
further information write to E. T.
Cary, Secretary, Midland Ave. &
Tallman St., Syracuse, New York.

— o —

Minnesota at Wabasha, August 13-14

We will hold a two-day meeting at Wabasha, Minnesota, Thursday and Friday, August 13 and 14. This is the annual summer meeting, to which will be added this year the election of association officers for the coming year. This is a special meeting, since the regular annual convention is usually held along in the fall of the year.

The Lions Club of Wabasha plans to give the beekeepers an entertaining welcome. A steamboat trip on Lake Pepin, through the locks of the Government Dam at Alma, is planned for one of the attractions. General sessions will be held in the school auditorium. Meetings for the ladies are planned which may result in the formation of a women's branch of the association. A good program is in prospect, dealing primarily with Minnesota beekeeping problems.

Another departure from the customary procedure is the entry of the association itself into the exhibition at the State Fair at St. Paul in September. The new setup is calculated to make for a more interesting and instructive exhibit. New quarters for the exhibit are in prospect and something very much worthwhile is anticipated.

Bruce Morehouse.

— o —

Ohio Beekeepers' Field Meeting August 13-14

Beekeepers are already making plans to attend the field meeting scheduled on August 13, 14, and 15 at Delphos, Ohio. The tours planned for August 13 and 15 should be especially worthwhile as this area of the state has enjoyed a good honey crop.

The "high light" of the general program scheduled for August 14th will be the banquet. The banquet is being planned in honor and recognition of the many years of valuable services rendered to the beekeeping industry of Ohio and throughout the United States by Mr. E. R. Root, editor, Gleanings in Bee Culture.

A cordial invitation is extended to everyone to attend this field meeting.

— o —

Michigan Summer Meetings in August

The following meetings will be held in Michigan during the month of August:

Italian Carniolan Caucasian QUEENS

Rearred in separate apiaries.
Breeding Carniolans from Im-
ported Stock.

Price 50 cents each.

RONALD KIRK, Rockton, Pa.



Honey gate
for 60 - lb.
cans. Screw it
on your can
of honey, syrup,
sorghum,
or other liq-

uid and you are ready to fill bottles, jars or pails. It eliminates splashing and dripping, saves time and labor. Works well with hot or cold liquid. Strong and well made, nickel-plated. No more sticky floors to clean up. Measure across top of cover for size wanted. 1 1/4 to 3 inch covers. Only \$1.00 plus postage. Weight 1 lb.



These pliers are made special for beehive work, and will give satisfactory service. You can remove heavy combs from the center of the hive with ease. You can examine the brood and combs, look for the queen, etc., in one-half the time, by using this tool. Wedge on handle may be used as scraper or pry. Coil spring between handles acts to urge the jaws apart and prevents dropping the tool into the beehive. Length about 7 inches. Cadmium plated. Price, \$1.00 postpaid. Satisfaction guaranteed. Mfg. by ERNEST FAHLBECK, 406 S. Springfield Ave., Rockford, Illinois.

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Untested	\$.50 ea.
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August 6—Adrian.

August 7—Howard Potter honey-house, Ithaca.

August 8—James Hilbert's, Traverse City.

E. R. Root, Medina, Ohio, and Miss Cranston of American Honey Institute are the principal speakers. Local folks will help. Come on.

Russell Kelty, Secretary,
Michigan.

—o—

Take in the Centennial, Too

Most of the 1500 to 2000 delegates to the convention of the American Honey Producers' League at San Antonio in November will make extended stops at the Texas Centennial Exposition, according to J. A. Moore, exhibition agricultural director.

Mr. Moore in receipt of this information from T. W. Burleson of Waxahachie, Texas, league president and director of exposition's educational honey exhibit that includes two hives of working bees, 40,000 Italian bees and 35,000 Caucasian bees.

The convention will convene November 22 and close November 25. Many league members residing in Canada, Cuba, Hawaii and South America will attend and will also come to the World's Fair of 1936, according to President Burleson.

"Our association has been quite active in promoting interest among the membership to visit the Dallas exposition," President Burleson notified Mr. Moore, "and I am quite sure that a majority of those at the convention will spend several days at Dallas either before or after going to San Antonio."

—o—

Van De Poele to Head Division of Apiculture in Massachusetts

Deputy Apiary Inspector John Van De Poele, of Abington, has been appointed to head the division of apiculture in Massachusetts, under the department of agriculture. In addition to regular inspection work, Mr. Van De Poele has been engaged in educational work among the beekeepers, and has been instrumental in forming a number of new associations.

Howard H. Murphy, the new commissioner of agriculture, has taken special interest in beekeeping, and has made an effort to get a larger appropriation from the legislature for bee work. This has not met with success, but it is probable that the combined effort of Commissioner Murphy and Inspector Van De Poele will result in an increase in appropriation the coming year.

The slogan of the division of apiculture under Van De Poele is: More bees, and better beekeepers.

Reported by Emil Kellstrand,
Rockland, Massachusetts.

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"Magnolia State" Strain Pure Three Banded Italians. There is no substitute for QUALITY; and by that we mean we know how to rear good queens. The honeyflow from cotton, partridge pea, and other summer bloom is making conditions ideal for producing the kind of queens YOU will want for YOUR requeening.

The almost unprecedented demand for our queens this season indicates two things: 1st, requeening is being done on a larger scale than in several years; the value of which is almost inestimable. 2nd, the reputation of our queens has become widespread, bringing in both repeat orders and new business.

Free, two select tested queens from our yards, for \$1.00 sent us for membership in the American Honey Institute. Every penny of your dollar goes to this great organization, to promote your business.

SELECT UNTESTED QUEENS, BALANCE OF SEASON
50c each.

JENSEN'S APIARIES MACON, MISSISSIPPI

Home of "Magnolia State" Strain Pure Three-Banded Italians.

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ULTRA VIOLET RAY TREATED QUEENS

Requeen now for a big crop next season. Produce gentler bees, more prolific queen.

1 to 9	75c each
10 to 24	70c each
25 to 74	65c each
75 to 100	60c each

HONEY

We buy white and amber extracted honey, also Fancy White comb honey.

BEESWAX

We render wax from your old comb at reasonable prices. We work your wax into comb foundation.

	lots of 50	lots of 100
5 lb. Friction Top Pails	\$3.15	\$6.30
10 lb. Friction Top Pails	4.65	9.30
2 1/2 lb. Friction Top Pails (100 lots only)	5.00	
60 lb. New Cans, bulk, lots of 50 or more	.30 each	
60 lb. New Cans, bulk, less than 50	.32 each	

HONEY JARS

16 oz. Modernistic Jars, pkd. 2 doz.	\$.85 case
48 oz. Modernistic Jars, pkd. 1 doz.	.85 case
32 oz. Modernistic Jars, pkd. 1 doz.	.80 case
6 1/2 oz. Modernistic Jars, pkd. 2 doz.	.70 case
4 oz. Tumblers, pkd. 2 doz.	.40 case

CORRUGATED SHIPPING CASES (for comb honey)
Holds 24 sections—sizes 4 1/4 x 4 1/4 x 1 1/2 or 4 x 6 x 1 1/2
Lots of 10 or more—25c each.

CELLOPHANE WRAPPERS (for comb honey) Beautiful
3-color.

For 4 1/4 x 4 1/4 x 1 1/2 Section	\$1.00 per 100	\$4.50 per 500
For 4 x 6 x 1 1/2 Section	1.00 per 100	4.50 per 500
For 4 x 6 x 1 1/2 Section	1.10 per 100	5.00 per 500
Paste—65c per quart.		

Write for our general price list.

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PURE ITALIAN QUEENS



Stock
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Pure Italian queens, bred from mothers imported from northern Italy. All leather colored. You'll like them. They are different.

PRICE—50c EACH, ANY NUMBER.

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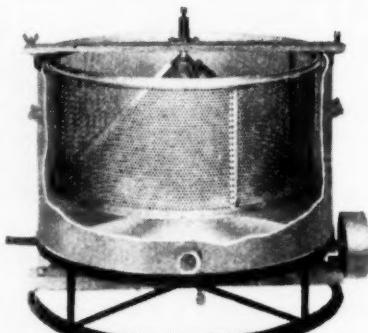
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American Bee Journal—1 Year	

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Send us your rush order for foundation. We have a nice stock on hand ready for shipment.

We wish to thank our customers for their wax work, and to assure you we will send you better foundation continually as we are continually improving our machinery and process.

To those interested in foundation making machinery, we solicit your inquiry. We have the best equipped machine shop and experienced men in this business. Complete plant set up, or individual machines to order. Reference Dun and Bradstreet.

Highland Apiaries and Factory West Elkton, Ohio

THRIFTY 3-BANDED ITALIAN QUEENS

50c each

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Young vigorous queens will help you repair your colonies for winter and bring them out in the spring ready for the early flow of nectar. Replace your old or inferior queens now and reduce winter loss and spring dwindling.

Forty-three years' experience assures you of the best stock.

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BRIGHT ITALIAN QUEENS BALANCE OF SEASON 50c ea., any number

If you requeen with Taylor queens this fall you will be delighted when you open up next spring. Our special breeding method, gives you winter protection, reduces swarming. Write for our circular and learn how we do it. Our location is free of disease.

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CAUCASIANS
Extra gentle, prolific, long tongue, little swarming, dependable workers, 10% to 40% ahead of Italians. Wintered out of doors and bred in a climate like their native land thus insuring their good qualities. August is a good time to do general requeening.

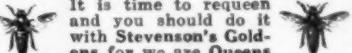
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Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 455 pounds extracted over whole yard. Twenty-nine years with them. My own and Jan Stregar imported strain.

Prices: Both races: 1 to 5, each **60c**. Six or more, 50c each. Tested **\$1.00**. Breeding queens **\$5.00**.

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Fig. 104

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Special equipment for filtering honey. Amazing results in brilliantly clear, stable honey, with high sales appeal. Simple process. Profitable investment. Filter, mixing tank, flash heater, complete outfit—investigate! Write us—no obligation.

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Then start now to requeen with **DAVIS BROS.** queens of highest quality. The season is fast slipping by, and we can't supply everyone who wants really good queens.

But some progressive and alert honey producers are going to get some truly fine queens. Will you be among them? Then had better write us now, so you won't be among the disappointed.

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Let me work your wax into bee comb foundation. I use the latest design and most improved equipment. I sterilize and filter the wax, exert tons of pressure on my wax sheets, making them the toughest and strongest possible, mill them with the true cell base and the highest possible cell wall. I have spared no expense in equipping my plant to enable me to offer you the best product at the lowest price.

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Standard Sizes of—	Cost of Manufacturing Per Pound
Med. Brood 10 lbs., 26c	25 lbs., 23c
Thin Super 10 lbs., 32c	25 lbs., 28c
25 lbs., 20c	50 lbs., 100 lbs. or more, 14c
25 lbs., 25c	50 lbs., 25c
25 lbs., 25c	100 lbs. or more, 21c

My prices include milling, papering and packing. You pay transportation charges both ways in addition.

I am also in the cash market for wax. Write for my prices and shipping tags before you dispose of your wax this year.

I also manufacture a complete line of soft white pine hives, supers, frames, etc. Write for my free catalogue.

WALTER T. KELLEY CO., Paducah, Kentucky

Crop and Market Report

COMPILED BY M.G. DADANT

For our August Crop and Market page, we asked reporters to answer the following questions:

1. What per cent of last year's crop is there in your section?
2. How is the carload and jobbing demand compared to 1935 at this time?
3. How are the prices?
4. What are the prospects for local demand?
5. Do you anticipate higher honey prices than a year ago?

Per Cent This Year's Crop Is of Last Year

The New England states are faring very nicely this year compared to last, the moisture having been sufficient there to boost up the honey production and most of the New England states report at least 100 per cent as much honey as last year and some more.

New York has about the average of last year. The North Atlantic states seem to have shrunk somewhat under last year but the South Atlantic states and down into Florida, report as much if not possibly a little bit more honey than last year on the same date. Georgia may be a little bit under.

The Central states, particularly the Southern Central states and extending into Kentucky, Tennessee and Arkansas are the ones that are reporting an extreme shortage. This is due not only to the fact that the drought cut off the white clover flows early but also to the fact that there are not nearly as many bees to gather the crop this year as there were in 1935.

When we get into Michigan, conditions are extremely favorable although there was a heavy loss of bees there and perhaps the total crop will not be any more than in 1935. In Wisconsin, conditions are very satisfactory but Minnesota has been badly hit in the sweet clover section by the drought and this extends into Montana, Dakotas and south into Iowa, Nebraska and Kansas.

The Intermountain territory perhaps is the best off of any throughout the entire nation excepting the New England states.

Reports coming particularly from western Montana, Idaho, Utah and Nevada as well as the west slope of Colorado would indicate that the crop there will be far better than last year and somewhere near the normal of previous years.

The Northwest is fairly well situated. In California, conditions have not improved appreciably except in North and North Central California where perhaps better crops than last year have been gathered. However, for the entire state the crop is far less than it was in 1935.

Carload and Jobbing Demand

The carload and jobbing demand without question are better than a year ago except for the following fact. A year ago at this time jobbers were active buyers, but buying at their own prices. This year owing to the fact that higher prices are asked generally by producers, jobbers are perhaps inclined to hold off a little rather than pay the increase in price which is demanded. However, we would say that the jobbing demand is better than it was a year ago.

Prices

Although considerable honey has been quoted on and some bought at prices which are just about in line with the prices offered last year, the majority of jobbing prices offered this year we believe is higher so far than in 1935 by $\frac{1}{2}$ cent to 1 cent. This holds true particularly in in-

termountain and central western sections.

When it comes to the ideas of the reporters on what the retail prices are going to be, they are about equally divided. About half of the reporters would indicate that prices will be about as last year while the other half are indicating that they are intending to advance their retail prices from 10 to 20 per cent over 1935.

Prospects for Local Demand

As mentioned above, the prospects for local demand are extremely desirable. The country over the total fruit crop is far under last year and the late drought has made for a shortage in all lines of can materials. This means that people will go to honey as a spread rather than preserves, jelly, etc. Already we have reports of local demands from consumers who are conserving such canned fruits as they have for the coming winter, being unable to can more and are piecing out with honey.

Honey Prices Compared to 1935

Again our reporters were about equally divided, about half of them anticipating that honey prices would be above a year ago and the other half that they would remain about the same.

All in all we believe that the general feeling is that prices are going to be higher.

Summary

All in all, it does look like the entire crop the country over is going to be not very much if any in excess of 1935.

One thing we must say and that is that this year the quality of the honey is extremely fine. We believe that the honey will run nearer extra white and water white than it has for many years and this applies not only in the plains and intermountain territory but in the Central West as well. Beekeepers are highly elated over the quality of the honey. This is particularly desirable because last year most honey or much of it was mixed with other sources so as to make light amber to amber. The amber Spanish-needle particularly was difficult in disposing of because of the exceeding strength of flavor and the reticence on the part of the bakers to use the pure product.

Beekeepers should bear two things in mind when it comes to this year's prices. If higher jobbing prices are paid for honey, then naturally the retail prices must advance. Much as many beekeepers may criticize the large honey packers, they are operating on a fair rate of margin of profit. That being the case, if they must pay 1 cent per pound higher for their honey, then naturally their retail prices must advance and it is most certainly not fair to them to force them to an advance in prices and then have them undercut by the little beekeeper who maintains his old schedule.

This has always been a sore thumb to the packers and perhaps always will be but the informed beekeeper should make it as equitable as possible.

One reporter suggested that it looked like he was going to get back to a 10 cent honey jobbing. We believe that any such ideas are a mistake. Of course if all food prices advance in the same proportion, then honey should but we are naturally limited to some extent in the price we can get for our honey compared with other sweets.

On an opposite page we give our suggestions on honey prices for this year and would be glad to hear from readers everywhere to any corrections they might want to make.

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The = BEEKEEPER'S EXCHANGE

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Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad., ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

ITALIAN QUEENS. Northern bred, for Northern conditions.
Eugene Gordon, Hershey, Nebraska.

THREE-BANDED Italian bees and queens for 1936. Write for prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, North Carolina.

CAUCASIAN BEES AND QUEENS for June. Write for free booklet which describes our bees and quotes prices.
Bolling Bee Co., Bolling Alabama.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We feed tons of sugar annually, and spare no expense in any way so that our queens are fully developed, fine large beauties, that will give you more than ordinary service and satisfaction. We can ship your queens quick from Paducah. We ship only young, laying queens, and guarantee them to be purely mated, and satisfactory to you. You are the judge. Price 50c each, to dealers 42½c each. We need dealers in many localities.

The Walter T. Kelley Co., Paducah, Ky.

EXTRA YELLOW Italian Queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested 50c each; tested \$1.00. Health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

GOLDEN ITALIAN QUEENS the rest of the season, 50 cents each. Quality and service to be considered when ordering queens. They are second to none. They satisfy. E. A. Simmons Apiary, Powell Owen, Mgr., Greenville, Ala.

GET RUNNING'S QUEENS and Get Honey —They Satisfy. The kind we use in our extensive Michigan Apiaries where we produce honey by the carload. Accredited and certified ITALIAN stock, bred for gentleness and honey getting. Price any number, 50 cents each. **QUICK SERVICE.**
David Running, Sunterville, Alabama.

REAL PETS—Gentlest Bees Under the Sun. Through select breeding and inbreeding I have developed bees that can be manipulated under all weather conditions without smoke or veil. Yellow in color. Non-swarmers and will gather as much honey as busy bees can do. Satisfaction guaranteed. Price \$1.00; larger orders in advance, 75c.
Brown's Apiary, Cape May Court House, N.J.

"SHE-SUITS-ME" QUEENS. See page 155 of March number. Send for circular.
Allen Latham, Norwichtown, Conn.

CAUCASIANS wintered outside. They are hardy, gentle and prolific. Will get a crop if there is one, with minimum swarming. Untested 50c. Booklet.
Bird's Apiaries, Odebolt, Iowa.

LEATHER COLORED Italian Queens. Good honey gatherers. Very gentle. Satisfaction guaranteed. Prompt service on large or small orders. J. F. Diemer Co., Liberty, Mo.

JOYFUL QUEENS—Leather colored Italians. Good honey gatherers and gentle. 50c each.
Joy Apiaries, Walter Friedich, Belleville, Ill.

ANNOUNCEMENT—Have gone in business for myself after many years' experience with others. My aim is not how much I can get for what I give, but how much I can give for what I get. For the remainder of the season, pure Italian golden queens 50c; tested \$1.00. Packages in season.
Head Apiarie, S. J. Head, Prop., Bay, La.

GOLDEN ITALIAN QUEENS that produce workers very gentle to handle. Good honey gatherers. Health certificate. Satisfaction guaranteed. Select tested, \$1.50; tested, \$1.00; untested, 50c.
D. T. Gaster, Rt. 2, Randleman, N. C.

CAUCASIAN BEES will increase your honey production and winter better. Queens 50c each.
P. B. Skinner Bee Co., Greenville, Ala.

QUEENS—A limited number of select Italian stock, warranted purely mated. No inbreeding permitted. 40 years' experience. 50c each.
Thos. Broderick, Moravia, N. Y.

GOLDEN QUEENS, gentle, untested 50c, tested \$1.50. Prompt shipment. Satisfaction guaranteed.
H. G. Karns, Green Bay, Virginia.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's. David Running, Fillion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. THE COLORADO HONEY PRODUCERS' ASSN., 1424 Market St., Denver, Colorado.

FANCY CLOVER and fall honey.
Kalona Honey Co., Kalona, Iowa.

FOR SALE—Fine grade light amber bulk comb honey.
Hyde Bros., New Canton, Ill.

HONEY PACKERS—Write us for prices and samples on California and Western Honeys. We stock all varieties. HAMILTON & COMPANY, 108 West Sixth Street, Los Angeles, California.

FOR SALE—Extracted honey in new 60's. H. Blitz, P.O. Box 3438, Philadelphia, Pennsylvania.

TUPELO HONEY—Will not granulate. Barrels, new 60's, seven and eight cents.
Anthony Bros. Honey Co., Apalachicola, Fla.

NEW CROP WHITE CLOVER HONEY.
Henry Stewart, Prophetstown, Ill.

NEW CLOVER EXTRACTED. Write for prices. Sample 15c.
A. J. Wilson, Hammond, New York.

NOW SHIPPING the finest of white clover in new 60's, 8c. No. 1 comb per case \$3.50.
F. J. Smith, Castalia, Ohio.

FOR SALE—New Comb and Extracted Honey. H. G. Quirin, Bellevue, Ohio.

NEW CLOVER HONEY for sale. Write for prices. Henry Price, Elizabeth, Illinois.

WHITE COMB HONEY in shallow frames and tin, also extracted.
H. V. Hyde, Rockport, Illinois.

FOR SALE—Finest quality and whitest comb honey in years. Also white extracted. N. B. Querin & Son, Bellevue, Ohio.

HOWDY'S HONEY—Carrier lots of comb and carlot or less of extracted in sixties.
Howard Potter, Ithaca, Michigan.

HONEY FOR SALE—All kinds, any quantity.
H. & S. Honey & Wax Company, Inc., 265-267 Greenwich Street, New York.

EXTRACTED CLOVER HONEY in 60-pound cans. New crop, new cans and cases. Can to Tons. Sample free.
W. S. Earls & Son, New Canton, Illinois.

HONEY AND BEESWAX WANTED

WANTED—Extracted Honey. Send sample and price delivered to T. W. Burleson & Son, Waxahachie, Texas.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Light Amber Honey. Carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

HIGHEST CASH PRICE for your beeswax. Write for my high prices and shipping tags before disposing of your wax.
Walter T. Kelley Co., Paducah, Ky.

WANTED—White and light amber extracted honey. Also comb. Prairie View Apiaries, 2005 Fullerton, Detroit, Mich.

WANTED—Comb and extracted honey. Schultz Honey Co., Ripon, Wisconsin.

WANTED—Comb, Chunk Comb, Extracted Honey. Any amount.
Central Ohio Apiaries, Millersport, Ohio.

CASH PAID FOR COMB AND EXTRACTED HONEY. Mail samples and best price.
C. W. Aepple Company, Oconomowoc, Wis.

WANTED—Extracted honey in carlots or less. Cash.
Sioux Honey Association, Sioux City, Iowa.

FOR SALE

FOR SALE—700 colonies bees, in two-story 10-frame hives, Hoffman frames, good condition. Odie Wedgworth, Florence, Ariz.

FOR SALE—Bees and equipment of the late J. M. Davis. Box 305, Spring Hill, Tenn.

GOOD CLEAN WOOD CASES with new cans, 75c. Dillons, Adrian, Michigan.

45 CASES 60-lb. honey cans and cases, used once, good condition, 50c per case of two cans. J. K. Wolosevich, 6315 S. Damen Ave., Chicago, Illinois.

45-FRAME EXTRACTOR, pump, 100-gallon honey tank, Hersheiser wax press.
Wm. Bigel, Barrington, Illinois.

FOR SALE—Fruit, dairy and bee farm. 24½ acres on gravel road near route 29, 2 miles south of Bureau, Ill. 6-room house with furnace. Near Senachwine bottoms. Location could use 250 colonies of bees. Walter L. Wright, Tiskilwa, Illinois, R. R.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, \$1.00; two years, \$1.50. Sample, 3¢ stamp.
The Beekeepers Item, San Antonio, Texas.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

SAVE QUEENS. Safin cages now 15c. Ten for \$1.00.
Allen Latham, Norwichtown, Connecticut.

FOR SALE—Queen mailing cages. Material, workmanship and service all guaranteed. Write for quantity prices.
Hamilton Bee Supply Co., Almont, Mich.

BEST BEE HUNTING OUTFIT.
Grover, Bristol, Vermont.

Honor Roll



EXPLANATIONS ON THE HONOR ROLL—

Honor Roll covers memberships received during the period of January 1, 1935 and December 31, 1935.

*Indicates those members received through the Free Queen Offer made by the Stover Apiaries, Mayhew, Mississippi.

Texas

*Baird, Don O., Huntsville
 Bulay, A. W., Liberty
 Burleson, T. W., Waxahachie
 Coffey, Whitman, Whitsett
 Lambright, Ira, Goliad
 McDonald, C. K., Rt. 1, Box 771,
 Beaumont
 Rice, Lee, Campbell
 Solomon, B. L., Box 765, San Antonio
 Sternenberg Bros., Lockhart
 Texas Assoc. of Queen Breeders &
 Bee Dealers, W. Coffey, Sec.,
 Whitsett
 Texas Beekeepers Assoc., H. B.
 Parks, Sec., Rt. 1, Box 368,
 San Antonio
 *Von Minden Apiaries, LaGrange
 Weaver Apiaries, Roy S. Weaver,
 Navasota
 Yancey, J. D., Caney Valley Apiaries,
 Bay City

Utah

Baird Bros., 980 N. 1st St., Provo --
Ball, T. L., Superior Honey Co., Ogden
Ellis, William, Deweyville
Heywood, L. S., Layton
Hillman Dan, 3469 Hyland Drive,
Salt Lake City
Malmgren, O. L., Centerfield
Miller, Roy N., 1635 S. State St.,
Salt Lake City
Olsen, Sophus, Hooper
Poulter, Raymond, 2539 Gramercy
Ave., Ogden
Rhees Brothers, Rt. 3, Ogden
Stone, M. S., Superior Honey Com-
pany, Ogden
Terriberry, F. B., Midway
Wakefield, J. F., 531 U. Ave., Provo
Walling, Leslie, 527 N. 2nd W.,
Salt Lake City

Vermont

Faneuf, Lee Jr., White River Junction
Manchester, F. D., Rt. 2, Middlebury
Mraz, Charles, Middlebury
Sunshine Honey Farm, G. F., Everett
Brandon
Vermont Honey Producers Assoc

Virginia

Asher, T. C., Brookneal
Bass, Chester A., Front Royal
Caldwell, W. A., Galt's Mills
Cassada, B. F., So. Boston
Franklin, C. D., Concord Depot
Harrison, George Jr., Purcellville
Hiett, A. D., Lynchburg
Hull, W. H., Vienna
Johnson, A. Norfolk
Vinson, J. Phillip, Amherst
Va. State Bee Assoc., W. A. Caldwell,
Galt's Mills

Appomattox

Washington

Buck, Carl F., College Place
Carlson, J. E., Garfield
Frederick, S. C., Rt. 1, Box 58, Kel
Gates, A. H., Garfield
Joubert, Julian, Enumclaw
Pearce & Dickerson Bee Farm,
Woodinville
Peterson, J. W., Rt. 1, Box 276,
Puyallup
Pierce Co. Bee Assoc., Mrs. E. V.
Ryan, Ohop
Porter, Charles E., Thorp
Swain, I. L., Prosser
Ternan, A. E., Ohop
Wells D. Rose Honey Co., Sunnyside
Whitney, Sherman, Rt. 2, Box 509,
Puyallup.

West Virginia

Fansler, H. C., Hendricks
Hiett, Chester B., Box 193, Moorefield
Wisconsin
Adams, C. D., Wauwatosa 8
Albert, John, Mayville
Allen, A. C., Portage
Barr, George, Boyd
Bauman, Alfred, Glen Beulah
Bayless, Dewey, Wausaukee
Beran, F. J., Athens
Berenschot, W. J., Lugerville
Bohn, Donald, 2828 S. 35th,
Milwaukee
Burg, Wendell, Rt. 2, Elkhart Lake
Carroll, Mike, Rt. 1, Albany
Cashman, Thos., DePere
Coenen, John L., Rt. 1, Kaukauna
Cypher, P. J., West Bend
Diehnel, Walter, Menomonie Falls
Desimowich, Peter, 216 So. St.

Hart
Dux

Elliott, S. P., Menomonie
Ericson, Raymond H., Norwalk
Eslinger, Esther, Boyd
Franz, John G., Darlington
Frisque, Myron, 526 Van Buren St.,
 Green Bay
Gentz, Frank, Blackwell
Giauque, C. W., Stanley
Greeler, F. E., Neillsville
Gwin, James, Dept. of Markets,
 Madison
Hanselman, E. H., Augusta
Hassinger, Edward Jr., Greenville
Hawkins, Kenneth, G. B. Lewis Co.,
 Watertown
Heise, Frank E., Box 65C, Merrill
Hencke, Ferdinand, Van Dyne
Hesseling, Joe B., Potosi
Hildeman, E. S., Belle Plaine
Hornbeck, M. E., 1401 First St., Beloit

Hodgson
H. S.

Bonham, Anton, Menomonie
Homer, Vernon H., Menomonie
Howard, W. G., 1152 S. Howell Ave.,
Milwaukee
Hunt, Lewis D., Sta. F., Rt. 9,
Milwaukee
Irwin, Ralph, Lancaster
Jacobson, George, Kaukauna
Jeske, Gilbert, Black Creek
Jones, Clara, West Bend
Kalbus, H. H., Rt. 1, Box 235,
Oshkosh
Kalschad, Edward A., Marshfield
Kazmeier, Oscar, Keil
Kennedy, Harold, Boscobel
*Kerl, Otto, Black Earth
Kleebler, A. L., Reedsburg
Kletzin, William, Schofield
Klingbyll, Helmuth, Cambria
Knebel, W. F., Plattville
Kneler, John, Rt. 1, Hales Corners
Knoll, Ed., Stratford

K. Rueg
Laird.

Larrabee, Ralph, Webster
Lathrop, Harry, Bridgeport
Legner, os., Knowlton
Lewis, G. C., G. B. Lewis Co.,
Watertown
Lohrenz, A. E., Shiocton
Longsdorf, William, Arkansas
Lotz, George, Aug. Lotz Co., Boyd
*Lubbers, Ira, Cedar Grove
Lyon, Sid, New London

Matzke, F. E., Jud

1.00	McKinney, Chas., Bagley	3.16
1.00	Meyer, Cornelius, Rt. 3, Box 154, Appleton	9.00
1.00	Michaelsen, William, Arkansas	12.32
5.00	Michelson, Edith, Box 2020 U. Sta., Madison	1.00
1.00	Mills, O. G., Bayfield	1.00
1.00	Nelson, Ingman, Westby	5.00
1.00	Nelson, William, Rt. 4, Oshkosh	1.00
2.00	Noack, Paul, Seymour	1.50
2.00	Otto, W. C., Reedsville	1.00
1.25	Parks, Lewis, G. B. Lewis Co., Watertown	25.00
2.00	Peterson, Martin, Clam Falls	1.00
1.00	Radioff, C. W., Cecil	1.50
1.00	Rahmlow, H. J., 1532 U. Ave., Madison	1.00
1.00	Ranum, G. M., Mt. Horeb	14.40
1.00	Reim, Herbert H., Watertown	3.00
1.00	Richardson, Faye, Rt. 1, Milton	4.00
4.00	Roy, Charles N., Sparta	7.00
	Roy, J. N., Fenwood	2.25
1.00	Schaefer, Henry, Osseo	15.00
4.00	Schoonover, R. E., Wilson	4.80
8.83	Schultz, A. J., 835 Liberty, Ripon	5.00
10.00	Schultz, H. A. & Son, Reedsville	2.50
1.00	Seefeldt, A. H., Kewaskum	8.00
1.35	Shannon, A. J., R. 3, Appleton	2.00
	Sherman, Guy L., Seymour	5.00
2.00	Sherman, W. T., Rt. 3, Elkhorn	1.00
2.00	Smith, George, Black Creek	1.00
1.00	Spero Cheese Co., Racine	2.00
1.00	Stark, L. F., Tigerton	1.00
	Stauss, C. W., Elkhart Lake	2.25
5.00	Stevens, Andrew, Stockbridge	5.00
15.00	Swart, William T., Hingham *Tanck, Alvin E., Rt. 9, Sta. F., Box 600, Milwaukee	2.50
55.00	Vallbrecht, William, Fall Creek	1.00
1.00	Weber, Miss Laura, Rt. 1, Hartland	2.00
1.00	Weidenkopf, Arlene, Box 2020 U. Sta., Madison	1.00
1.25	Wentz, Gerald J., Rt. 2, Box 57, Sheboygan Falls	1.00
1.00	Wilkas, Klem, Dexterville	1.00
1.00	Wilson, Prof. H. F., Box 2020 U. Sta., Madison	5.00
7.00	White, Mrs. Martha, Pewaukee	1.00
	Wise, State Bee. Assoc., P. J. Cypher, Treas., West Bend	60.00
4.00	Wolkow, A. E., Hartford	5.00
2.00	There is honey on hand from the following beekeepers. When this is sold it will be credited to memberships.	
1.00	Michaelsen, William, Arkansas	180 lbs
.50	Murray, F. L., Calamine	10 lbs
1.00	Longsdorf, Wm. H., Arkansas	10 lbs
10.00	Reich, Frank, Rt. 4, Stratford	60 lbs
2.00	Wyoming	
2.00	Brown, Elgen, Lovell	\$ 2.50
1.00	Ingalls, Harry E., Basin	25 lbs
3.00	Johnson, Sterling, Lovell	5.00
1.00	Krause, Geo., Riverton	20.00
1.00	Mosteller, William, Box 1570, Casper	16.00
1.50	Rauchfuss, E. O., Box 284, Powell	3.00
3.00	Woolsey, C. W., Wheatland	10.00
7.00	Foreign	
1.00	Anonymous	\$7.50
1.00	Bricker, D. O., Fernie, British Columbia	1.00
4.00	Harris, S. C., 82 Persimmons, Johannesburg, South Africa	4.80
1.00	Hodgson, S. P. & Sons, 551 13th Ave., New Westminster, British Columbia	5.00
50.00	Jenks, V. F., 327 Ash St., New Westminster, British Columbia	1.00
1.00	Sask. Beekeepers' Assoc., R. M. Pugh, Sec.-Treas., Regina Saskatchewan	2.00
1.00	Trousdale, S., Puslinch, Ontario	1.00

This completes the Honor Roll for the year 1935. If any name has been omitted or any name misspelled, please write at once to either the American Bee Journal or to American Honey Institute, Madison, Wisconsin.

THIS SPACE CONTRIBUTED BY DADANT & SONS, HAMILTON, ILL.

Dadant's Surplus Foundation A Standard of Perfection

This foundation gives each section a delicate center that blends perfectly with every bite. Remember, a well pleased customer is an asset.

SOLD BY ALL LEWIS-DADANT DEALERS
Dadant & Sons :: Hamilton, Ill.

The Postscript

GOSSIP ABOUT THE OFFICE
IN THE MAKING OF THE MAGAZINE



An Iowa reader of this page asks for information about ginseng and wants to know if it will succeed so far south. I have had no personal experience with ginseng but a friend of mine planted it in his pine grove in eastern Iowa. After it had increased for a few years he sold \$1,500 worth of seeds and plants in one year. I doubt whether it can be made to pay unless one has the right kind of natural grove where it will grow in the shade without cultivation.

ABJ

When my friend, George Rea, the genial New York bee booster, visited me at my Iowa farm recently, he very kindly offered to send me some seed of ginseng so that I might see what it would do in my grove. In view of the interest which has been shown in this plant I should have tried it long ago. Rea and I have a common interest in many things, including the development of a country place where we can indulge our fancies for many plants which do not promise financial return. I am sorry that Reynoldsville, Pennsylvania, where Rea has his farm is so far away as I would like to return his call.

ABJ

We certainly appreciate the cordial support which the inspectors have given to our disease resistance project. Had it not been for the stock which came to us from them, I fear there might not have been much as yet to show for our efforts. Quite properly several inspectors have felt some concern over the danger of ill-advised publicity. Newspaper comment too often takes a turn which gives a false impression and causes embarrassment to research workers. Publicity dealing with disease presents special dangers.

Letters continue to come to us asking about obtaining stock. As has been stated before in this magazine, it may be several years before the breeding work has progressed to a point where stock can be offered with any degree of confidence. It remains to be seen to what extent the character of disease resistance can be transmitted from one generation to another.

ABJ

J. J. Wilder, of Waycross, Georgia, writes about button-bush. He states that it is not a source of honey in the South, even where it is very abundant. It grows on wet lands, usually those subject to overflow of streams or on the margins of ponds or marshes. Wilder states also that it yields very little pollen, not even sufficient to stimulate brood rearing. The flowers are attractive and have a pleasant odor.

ABJ

This raises an interesting question as to whether button-bush or button-willow has been over estimated, or whether it behaves differently in the North. It has been generally regarded as valuable to the bees in neighborhoods where it is abundant. While in a state of nature it is found in wet places, it does seem to thrive as an ornamental in many gardens where the soil is deep and loose. Reports from beekeepers who are familiar with the shrub will be welcome.

Because a plant secretes nectar abundantly in one locality is no assurance that it will do so under different conditions.

ABJ

"It is a girl." Such was the telegram announcing our seventh grandchild, which came from Schenectady, New York, during the bee meeting. Each of our four children

in turn has presented us with a new grandbaby within the last twelve months. Thus the Pellett family grows in spite of depression or drought. With two of our children Democrats and two Republicans we offer little threat to the future of either political party.

ABJ

Weather conditions were unpleasant for the meeting held at Atlantic on July 17. There had been no rain worth mentioning for more than forty days and the boiling sun had kept temperatures above a hundred every day for nearly two weeks. Lawns and gardens were burned to a crisp and there was little to show for our efforts with the garden crops. All clumps of such summer and fall honey plants as cup plant, crownbeard, rudbeckia, monarda and others looked like sick patches of weeds. I hope that all our friends can come again at some future time when conditions are more favorable.

ABJ

There were 222 persons who registered during the meeting, from Iowa and six adjoining states. Since Atlantic is at a distance from the commercial honey producing area most of the visitors had to endure long and hot journeys to get there. It takes some enthusiasm to start out in such weather to go to any kind of public gathering. It would be interesting to know what the miles traveled to attend this meeting actually totaled. Since many came 200 to 500 miles a considerable contribution was made to the gas tax with the purchase of gasoline.

ABJ

W. H. Pearson, of Mitchellville, one of the few remaining beekeepers who was present at the first convention of the Iowa Beekeepers' Association held at Des Moines twenty-five years ago, was probably the oldest man in attendance. The ten weeks' old baby who came with its parents from Ocheydan, Iowa, was the youngest.

ABJ

The men in charge of disease control of four states were present: Dr. R. L. Parker, of Kansas; L. M. Gates, of Nebraska; C. L. Duax, of Illinois; and F. B. Paddock, of Iowa. The inspectors can be depended upon to keep fully informed concerning new developments in disease control.

ABJ

The failure of numerous attempts to control foulbrood by other means than destruction has justified much caution in dealing with anything which has not been fully proved. Comb sterilization held much of promise and was apparently successful in numerous instances. It is too soon to be sure that the isolated cases of apparent disease resistance may lead to anything of permanent dependence. One thing, however, is certain: losses from disease are so great that some remedy must be found and with the efforts now under way we may confidently expect that one will be found.

ABJ

The proposal to extend the cooperative experimental project to include the United States Department of Agriculture and the experiment stations of Wyoming, Wisconsin, Texas, and Iowa should insure that the work will be very thoroughly done under competent supervision. With so many trained workers engaged little doubt should remain concerning any possibility in that direction after the project has been completed. Disease still remains the biggest problem for the beekeeping industry.

FRANK C. PELLETT.